

## STUDIES IN AMERICAN SPIDERS: MISCELLANEOUS GENERA OF ERIGONEÆ, PART II

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We take this opportunity to express our thanks to the authorities of the Museum of Comparative Zoology, especially to Professor Nathan Banks and to Miss Elizabeth B. Bryant, for the privilege of studying the types of the species described by Emerton, Banks and Chamberlin. We have always received a cordial welcome at the Museum and have been given every facility for carefully studying the specimens and for making drawings of unique types. Without this cooperation it would have been impossible to prepare this series of revisions of the Erigoneæ.

### SCOTINOTYLUS Simon

Ar. Fr. 5: 501. 1884

Type: *Erigone antennata* Cambridge.

The embolic division has a spirally coiled tail-piece and a very long slender coiled embolus. The tibia of the male palpus is armed with two enlarged spines. *Scotinotylus* is related to *Spirembolus*, *Tortembolus* and *Cochlembolus*.

A single specimen of the type species has been collected in America, near snow on Mt. Rainier, Washington.

### *Scotinotylus antennatus* Cambridge

(Figures 1-3)

*Erigone antennata* Cambridge, Zool. Soc. Lond. Proc. 1875, p. 197, pl. 27, f. 7.

*Erigone aries* Kulezynski, Pam. Akad. Krakow. 8: 17, pl. 2, f. 11. 1882.

*Scotynotylus antennatus* Simon, Ar. Fr. 5: 502, f. 287-290. 1884.

*Scotynotylus antennatus* Calloni, Fauna nivale, p. 134, 264, 265. 1889.

*Scotynotylus aries* Chyzer & Kulezynski, Ar. Hung. 2: 95. 1894.

*Scotynotylus antennatus* Kulezynski, Bul. Intern. Acac. Sci. Cracovie, 1905, p. 552.

*Scotynotylus antennatus* de Lessert, Cat. Ar. Suisse, p. 169. 1910.

*Scotynotylus antennatus* Simon, Ar. Fr. 6: 373, f. 665. 1926.

MALE. Length, 1.5 mm. Cephalothorax dull orange yellow, lightly suffused with dusky, darker along the margin; viewed from above, rather broad, the sides rounded on the posterior half, converging in front, broadly rounded across the front; viewed from the side steeply ascending behind, then more gradually to back of the head, rounded over the back of the head to the posterior median eyes; top of head nearly level. Clypeus very wide, slightly concave just below the eyes and then convex and somewhat protruding. Sternum nearly black over yellow, convex, smooth and shining, posterior coxæ separated by almost the diameter. Endites pale orange yellow lightly suffused with dusky. Legs light orange yellow. Abdomen gray.

Posterior eyes in a recurved line, the median separated by a little more than the diameter and from the lateral by three times the radius. Anterior eyes in a slightly procurved line, the median smaller than the lateral, separated by two-thirds the diameter and from the lateral by twice the diameter. On each side just back of the anterior median eye there is a long, stout, blunt spine directed forward.

Femur of palpus rather stout, compressed, curved inward. Patella long, curved downward, thicker distally. Ratio of length of femur to that of patella as 20 to 16. Tibia very short ventrally, dorsally elevated and produced forward into a pointed process which in dorsal view is broadly rounded on the mesal side, excavated laterally, armed with a stiff spine at the edge of the excavation; in side view the tip of this process appears strongly incurved. The tibia is armed at base, dorsolaterally with a very long, stout, spine. Cymbium dorsally angulate at base, truncate at tip, with a broad, deep groove near the lateral margin. Paracymbium thin, lying nearly in one plane, bent at a right angle, broader beyond the bend, rounded at tip with a shallow, rounded notch. Bezel narrow and high. Tail-piece of the embolic division broad and spirally curved, the tip rounded with a rounded projection next to the cymbium. The tail-piece gives rise directly to a very long, slender, style-like embolus which after making one turn inside the bulb emerges on the mesal side of the bezel and then makes a

larger, flat turn around the end of the bulb, the very fine tip lying behind the bezel. The median apophysis appears as a finger-like process lying between the inner and outer turns of the embolus.

Type locality: Col des Ayes, Casset, France.

Washington: Mt. Rainier, Paradise Camp, near snow, Aug. 22, 1927. 1 ♂.

Compared with a specimen from France, determined by Simon.

#### SISICOTTUS new genus

Type: *Tmeticus montanus* Emerton

In this genus the tibia of the male palpus is armed with a dorsomesal process of only moderate length. The embolic division has a bulb-like tail-piece from which there arises a style-like embolus which lies in an open coil of one turn on the end of the bulb.

#### KEY TO SPECIES, MALES

Dorsomesal process of the tibia long, as in figures 5 and 6.....*montanus* Em.  
Dorsomesal process shorter, as in figures 9 and 10.....*montigenus* n. sp.

#### *Sisicottus montanus* Emerton

(Figures 4-8)

*Tmeticus montanus* Emerton, Conn. Acad. Sci. Trans. 6: 55, pl. 16, fig. 3. 1882.

*Erigone collina* Marx, U. S. Mus. Proc. 12: 533, 538, 593. 1890.

*Edothorax montanus* Crosby, Phila. Acad. Nat. Sci. Proc. 1905, p. 312.

*Grammonota orites* Chamberlin, Ent. Soc. Am. An. 12: 249, pl. 17, figs. 7-8. 1919.

*Gongylidium montanus* Emerton, Royal Can. Inst. Trans. 12: 315. 1919.

*Edothorax nesides* Chamberlin, N. Y. Ent. Soc. Jour. 29: 36, pl. 3, f. 1. 1921.

*Edothorax pidacitis* Crosby and Bishop, N. Y. Ent. Soc. Jour. 35, p. 151, pl. 16, f. 17-18. 1927.

*Edothorax orites* Chamberlin and Ivie, Univ. Utah Bul. 23 (4): 22, pl. 5, fig. 48. 1933.

MALE. Length, 1.7 mm. Cephalothorax dark dusky orange, darker at the margin; viewed from above evenly rounded on the sides, only slightly convergent towards the front, bluntly rounded across the front; viewed from the side, steeper behind but rounded to the posterior eyes. Clypeus slightly convex and protruding.

Sternum dusky orange, nearly black, rather broad, rounded on the sides behind, bluntly produced between the posterior coxæ which are separated by less than the diameter. Endites orange yellow. Legs and palpi bright orange yellow. Abdomen dark greenish gray, almost black. Posterior eyes in a slightly procurved line, equal, the median usually separated by less than the diameter and a little closer to the lateral but in some specimens they are separated by the diameter. Anterior eyes in a straight line, the median smaller than the lateral, separated by less than the radius, a little closer to the lateral. Clypeus as wide as median ocular area.

Femur of palpus long, slender, and quite strongly curved. Patella short and strongly arched over the back. Ratio of length of femur to that of patella as 20 to 6. Tibia short and deeply excavated, the dorsolateral angle deeply and broadly emarginate with a very short, broad lobe in the middle of the excavation; the excavation bounded on the dorsal side by a broad triangular process tipped with a short black tooth directed laterally, and bounded laterally with a broad, triangular, round-pointed tooth. The paracymbium consists of two parts; a thick, rounded basal part and a slender, strongly hooked terminal part. The embolic division has a large pear-shaped tail-piece which connects directly with the base of the embolus, the latter stout and black and lying back under the cymbium. The terminal, whip-like part of the embolus arises deep back in the alveolus and curves around to emerge from the edge of the cymbium on the lateral side some distance from the tip. It is protected by a conspicuous pointed conductor. The median apophysis appears as a sharp, black tooth lying within the curve of the embolus.

FEMALE. Length, 1.7 mm. Similar to the male in form and color. Epigynum convex, broader behind, with a broad emargination which is convexly rounded on the sides and square across the middle. In this notch the middle lobe can be seen as a short, transverse, inverted T-shaped plate. The curved inner margins of the lateral lobe diverging in front can be seen through the integument.

Type locality: Mt. Washington, N. H.

This species varies somewhat in different parts of its range and

has received several names. Emerton described *montanus* from Mt. Washington, New Hampshire. In 1921 Chamberlin described *nesides* from St. Paul Island, Alaska. The type of *nesides* in the Museum of Comparative Zoology has lost all but the front right leg. The abdomen is loose and shriveled. The palpi are practically the same as in typical *montanus*; the posterior eyes are separated by about the diameter of an eye and the relative width of the eye-group is greater. In 1919 Chamberlin described *orites* from the mountains of Utah. A comparison of types shows that *orites* is identical with *montanus*. In 1927 we described *pidacitis* from Pingree Park, Colorado. This form of *montanus* is a little larger and usually somewhat paler than typical specimens from the east. The genital bulb is the same. The tibia of the male palpus of the two forms are shown together in Figs. 5 and 6. We at first thought we might be able to distinguish these forms by the distance between the posterior median eyes but have decided that this character cannot be depended upon. We first separated our male specimens into two lots, placing in *pidacitis* the larger paler forms with the tibia of the type shown in Fig. 5; in *montanus* we placed the smaller, darker forms with the tibia as in Fig. 6. We then measured the distance between the posterior eyes with the results shown in the tabulation on the following page.

For the present at least it seems best to consider these forms merely as races of *montanus*. On the mountains of New England and New York only typical *montanus* is to be found. In the Western States both forms may occur in the same localities.

Quebec: Ile d'Alma, Lac St-Jean, July 28, 1934, 3 ♂; Bagotville, July 26, 1934, 6 ♂.

Maine: Presque Isle, Aug. 26, 1925, 3 ♂ 16 ♀; Long Island, April 27, 1906, 1 ♂ (Bryant).

New Hampshire: Franconia, 1 ♂ (Banks).

New York: Uphill Brook and Opalescent River, Essex Co.; July 1918, 2 ♂ 7 ♀; High Falls, Essex Co., Aug. 23, 1921, 1 ♂ 1 ♀; Mt. MacIntyre, Essex Co., July 1, 1923, 5 ♂ 1 ♀; July 24, 1925, 2 ♂; Mt. Whiteface, Essex Co., Aug. 24, 1916, 27 ♂ 14 ♀; Sept. 13, 1931, 8 ♂ 7 ♀ (Hammer); Aug. 25, 1921, 2 ♂ 2 ♀; Lake Tear, Mt. Marcy, Essex Co., Sept. 4, 1922, 8 ♂ 4 ♀; Artist's Brook, Chapel Pond, Essex Co., Aug. 24, 1930, 2 ♂; Sept. 7, 1931, 3 ♂

2 ♀; June 11, 1933, 6 ♂; Oct. 20, 1934, 3 ♂ 3 ♀; Avalanche Lake, July 24, 1925, 2 ♂.

Vermont: Mt. Mansfield, June 4, 1927, 3 ♂; July 5, 1935, 7 ♂ 7 ♀.

Wyoming: Grand Canyon, Yellowstone Park, Aug. 30, 1927, 1 ♂; Sylvan Pass, Aug. 31, 1927, 1 ♂.

Washington: Seattle, Spring, 1932, 3 ♂ (Exline).

Alberta: Sulfur Mt., Banff, Aug. 2, 1927, 1 ♂.

British Columbia: Metlakatla, several ♂ ♀ (Emerton); Yoho Glacier, Aug. 5, 1914, many ♂ ♀ (Emerton).

|  | Number of specimens<br>posterior median eyes<br>separated: |                              |
|--|--|------------------------------|
|  | By the<br>diameter   | By less than<br>the diameter |
| <i>pidacitis</i>                         |  |                              |
| Mt. Rainier .....                        | 1  | 1                            |
| Sylvan Pass, Yellowstone Park .....      | 1  |                              |
| Grand Canyon, Yellowstone Park .....     | 2  |                              |
| Yoho Glacier, B. C. ....                 |  | 1                            |
| Metlakatla, B. C. ....                   |  | 1                            |
| <i>montanus</i>                          |  |                              |
| Presque Isle, Me. ....                   | 2  |                              |
| Mt. Mansfield, Vt. ....                  |  | 3                            |
| High Falls, N. Y. ....                   |  | 2                            |
| Avalanche Lake, N. Y. ....               |  | 2                            |
| Chapel Pond, N. Y. ....                  | 1  | 4                            |
| Mt. Whiteface, N. Y. ....                | 1  | 12                           |
| Uphill Brook & Opalescent R., N. Y. .... |  | 1                            |
| Mt. MacIntyre, N. Y. ....                | 3  | 4                            |
| Banff, Alta. ....                        |  | 1                            |
| Grand Canyon, Yellowstone Park .....     |  | 1                            |

This species has also been recorded by Emerton from Labrador: Battle Harbor; Quebec: Lake Megantic; Maniwaki; Ontario: Minaki; British Columbia: Laggan; Jasper; Saskatchewan: Prince Albert.

***Sisicottus montigenus* new species**

(Figures 9-11)

MALE. Length 1.5 mm. Cephalothorax dark gray over yellowish, evenly rounded on the sides, narrowed towards the front, broadly rounded across

the front; viewed from the side rather steeply ascending behind to the cervical groove, than more gently ascending to the back of the head and then evenly and gently rounded over to the posterior median eyes. Clypeus nearly straight and slightly protruding. Sternum and labium dark gray over yellow. Endites somewhat lighter. Legs and palpi orange yellow. Abdomen gray.

Posterior eyes in a straight line, the median separated by the diameter and a little nearer to the lateral. In another specimen taken with the type the posterior eyes are separated by less than the diameter. Anterior eyes in a slightly procurved line, the median smaller than the lateral, separated by the radius and from the lateral by a little more.

Femur of palpus slightly curved inward, a little wider distally. Patella short. Ratio of length of femur to that of patella as 19 to 6. Tibia longer than patella, widened distally, the dorsal margin on the mesal half evenly rounded, the dorsolateral margin with a broad, shallow excavation bounded mesally with a short black tooth. The paracymbium armed at base with a row of three short stiff hairs; on the ventral side of the palpus greatly enlarged and reaching the opposite edge of the cymbium, the tip relatively slender with a shallow notch before tip. The embolic division has a large pear-shaped tail-piece which connects directly with the base of the embolus, the latter stout and black and lying back under the cymbium. The embolus is a black style that arises deep back in the alveolus and curves around to emerge from the edge of the cymbium on the lateral side some distance from the tip. The genital bulb is closely similar to that of *montanus*.

In the specimens from Mt. MacIntyre there is some variation in the size of the tooth on the tibia of the male palpus and in the number and size of the hairs on the base of the paracymbium. See figures 9 and 10.

FEMALE. Similar to the male in form and color. Posterior eyes equal, in a slightly procurved line, the median separated by three-fourths the diameter, a little closer to the lateral. Anterior eyes in a very slightly procurved line, the median distinctly smaller than the lateral, separated by two-thirds the diameter and from the lateral by a little more. The epigynum is distinctly protuberant, the median fovea squarish, rounded in front, the lateral walls convex mesally. A median septum slightly widened anteriorly faintly indicated.

Holotype, ♂, allotype ♀, Mt. Mitchell, N. C., Oct. 12, 1923. 1 ♂ and 3 ♀ paratypes from the same locality.

New York: Mt. MacIntyre, Sept. 4, 1927, 2 ♂; July 1, 1923, 1 ♂; Lake Tear, Mt. Marcy, Sept. 4, 1922, 1 ♂.

#### SISICUS new genus

Type: *Sisicus penifusiferus* n. sp.

In this genus the tibia of the male palpus is broadly produced into a rounded lobe. The tail-piece of the embolic division is broad, flat, rounded;

the embolus is long, slender and coiled into a spiral along with the extraordinarily elongate median apophysis.

***Sisicus penifusiferus* new species**

(Figures 12-13)

MALE. Length, 1 mm. Cephalothorax yellow lightly suffused with dusky, darker at margin and in a small patch at the cervical groove; viewed from above, noticeably broad, evenly rounded on the sides without any constriction at the cervical groove, broadly rounded across the front; viewed from the side, evenly and steeply ascending in a straight line to the cervical groove, then evenly and broadly rounded over to the posterior median eyes. Clypeus nearly straight and slightly protruding. Sternum gray over dull yellow, broad, convex; labium gray; endites yellow, lighter distally. Legs pale yellow. Abdomen dark gray.

Posterior eyes in a straight line, equal, the median separated by the diameter and a little farther from the lateral. Anterior eyes in a straight line, the median smaller than the lateral, separated by a little less than the radius and from the lateral by the diameter.

Femur of palpus moderately long, slightly curved, slightly widened distally. Patella short and broad. Ratio of length of femur to that of patella as 15 to 6. Tibia obconic with the mesodorsal angle produced into a broad, thin, rounded lobe. Paracymbium at point of attachment square and thickened. It then narrows gradually to the beginning of the curve, this basal part provided with a sharp longitudinal keel, branched at base; the curved part of the paracymbium very slender, the tip widened. The tail-piece of the embolic division quadrate, with a rounded excavation distally, the lateral angle bluntly angulate. The tail-piece gives rise to a long, moderately slender, style-like embolus which is coiled around a grooved spool, the tip lying in a pointed projection on the end of the spool. This spool seems to represent the median apophysis; it is, however, a separate sclerite being articulated with the tegulum by means of an elongate, thin, flat, process. The spool proper is black and is spirally grooved for the reception of the embolus. It is armed at base, ventrolaterally, with a long, slender, curved tooth.

FEMALE. Length, 1 mm. Similar to the male but lighter. The epigynum is nearly circular and is largely occupied by an immense cavity, divided in front by a double median line indicating the position of the ducts; the anterior half of the rim is narrowly chitinized; a broader band borders the cavity on the sides, behind, and in the middle there is an erect rounded lobe.

Holotype, male, Avalanche Lake, N. Y., July 24, 1925; allotype, female, Arnprior, Ontario, April, 1934.

New York: Lake Pleasant, April 27, 1924, 1 ♂; Peru, Oct. 22, 1934, 1 ♂.

Maine: Molunkus Pond, Aug. 25, 1925, 1 ♂.

Ontario: Arnprior, April, 1934, 4 ♂ 3 ♀ (C. Macnamara).



**SCOLOPEMBOLUS** new genus

Type: *Aræoncus littoralis* Emerton.

In this genus the tibial armature of the male palpus consists of two processes of moderate length. The tail-piece of the embolic division is long, slender, undulating and gives rise directly to a pointed embolus.

## KEY TO SPECIES, MALES

Dorsal process of tibia pointed.....*melacrus* Chamb.  
 Dorsal process of tibia broader and rounded.....*littoralis* Em.

**Scolopembolus littoralis** Emerton

(Figures 14-15)

*Aræoncus littoralis* Emerton. Conn. Acad. Sci. Trans. 18: 214, pl. 1, fig. 6, 1913.

MALE. Length, 1.5 mm. Cephalothorax chestnut brown, head lighter; viewed from above, evenly rounded on the sides without a constriction at the cervical groove, broadly rounded across the front; viewed from the side, evenly and gently rounded over from the posterior margin to the posterior median eyes. Clypeus broad, gently convex and slightly protruding, clothed with a few erect hairs. Sternum orange, strongly suffused with dusky, darker at the margin. Endites dull orange, lighter distally. Legs orange yellow. Abdomen dark gray.

Posterior eyes in a slightly procurved line, equal, the median separated by the diameter and from the lateral by nearly twice the diameter. Anterior eyes in a procurved line, the median smaller than the lateral, separated by less than the radius and from the lateral by twice the diameter.

Tibia obconic, with a smooth rounded notch in the dorsal margin, mesal angle broadly rounded, the dorsolateral angle produced into a short rounded tooth. Tegulum strongly developed, protuberant ventrally. Tail-piece of the embolic division thin, extending beyond the edge of the tegulum. The embolus is a short black tooth arising from the base of the tail-piece.

Type locality: Lyme, Conn.

Described from the type, 1 ♂, Oct. 8, 1911. In wet hay on edge of marsh.

**Scolopembolus melacrus** Chamberlin

(Figures 16-17)

*Edothorax melacra* Chamberlin. Mus. Comp. Zool. Bull. 60: 236, pl. 17, f. 6, 7. 1916.

MALE. Length, 2 mm. Cephalothorax yellowish orange with a faint tinge of reddish, narrowly margined with gray; viewed from above broadly rounded on the side, slightly constricted at the cervical groove, broadly rounded across the front; viewed from the side, gradually ascending to the posterior median eyes, gently rounded over the head. Clypeus straight and slightly protruding. Sternum dark gray over yellow, strongly convex, produced between the posterior coxæ which are separated by less than the diameter. Endites pale orange-yellow, chelicerae with a tooth on face. Legs long and slender, pale yellow. Abdomen pale in front, blackish posteriorly.

Posterior eyes in a straight line, equal, the median separated by three-fourths the diameter and from the lateral by the radius. Anterior eyes in a very slightly recurved line, the median smaller than the lateral, separated by half the radius and from the lateral by the same distance.

Femur of palpus gently curved inward and downward. Ratio of length of femur to that of patella as 26 to 10. Tibia narrow at base, gradually widened distally, the dorsal margin thin and smooth, evenly rounded on the mesal corner, strongly concave at the base of the dorsolateral process. The latter rather broad, ending in two points, the upper one black, triangular; the lower one has the tip bent abruptly downward to form a blunt tooth. Paracymbium large, strongly curved; the flattened outer part has the mesal angle square, the tip tongue-like, without notch. Tail-piece of embolic division long extending beyond the edge of tegulum to the edge of the cymbium, the tip broad and rounded, constricted from the broader basal part. The embolus, borne on the mesal angle of the tail-piece, is a rather stout, gently curved style which lies in a channel in the median apophysis.

Type locality. Cuzco, Peru.

California: Ocean Beach, Ingleside, Nov. 29, 1919, 1 ♂ (H. Dietrich).

Washington: Seattle, Oct. 28, 1932, 1 ♂ (Exline).

We compared the California specimen with the type in M.C.Z. and found that they are undoubtedly identical except that the type is considerably larger and more maturely colored.

**FEMALE.** Very similar to the male from Peru. The epigynum has a nearly quadrate middle lobe, greatly narrowed in front where it separates two large, nearly circular openings. The receptacles are small and show through the integument close to the lateral edges of the openings.

**TRÆMATOSISIS** new genus

Type: *Aræoncus bispinosus* Emerton.

This genus is very close to *Sisis* but the male is provided with cephalic pits. The patella of the male palpus is long and swollen. The tibia is provided with a very long slender process.

**Træmatosisis bispinosus** Emerton

(Figures 18-21)

*Aræoncus bispinosus* Emerton. Conn. Acad. Sci. Trans. 16: 389, pl. 1, fig. 7. 1911.

**MALE.** Length, 1.4 mm. Cephalothorax dull brownish with darker radiating lines; viewed from above broad, rounded on the sides, rapidly narrowing forward, truncate in front, the eyes borne on a narrow lobe. Cephalothorax viewed from the side, gently arched behind to the base of the cephalic lobe, then strongly elevated and arched over the back of the head to the posterior median eyes; the median ocular area straight, slanting slightly forward. Cephalic pits very small, circular, lying close behind the posterior lateral eyes in a shallow groove. Clypeus concave below the eyes, then convex and slightly protruding. Sternum dark brown, broad, the posterior coxæ widely separated. Endites dull orange yellow mottled with dusky. Legs yellowish. Abdomen dark gray.

Posterior eyes when viewed from directly above slightly procurved, nearly straight. Anterior eyes in a gently procurved line, the median smaller than the lateral, separated by the radius and a little farther from the lateral. The posterior median eyes are borne on the top of the cephalic lobe.

Femur of palpus relatively short, nearly straight. Patella

straight, stouter than femur. Ratio of length of femur to that of patella as 17 to 13. Tibia swollen and enlarged dorso-mesally; the dorsal margin depressed and thin, armed with a very long, slender process that lies close to the back of the cymbium. Back of the depressed area there is a diagonal ridge, highest at the mesal end and armed mesally with a row of four evenly spaced stiff hairs. On the right palpus there is only one tibial process but on the left one there is another shorter curved one just back of the base of the long one. Paracymbium small, thin, strongly curved. Tail-piece of the embolic division slender in the basal part; the tip, which lies over the edge of the cymbium is sharply angulate and hooked back with the apex acute. The embolus is a long slender style, double basally, which first makes one large turn and then ends in a much smaller coil.

In the form of the embolic division and the armature of the tibia of the male palpus the species approaches *Spirembolus*.

FEMALE. Length, 1.4 mm. Similar to male but the head is less elevated. The epigynum has the lateral lobes nearly meeting in the middle with the inner margin semicircularly rounded, leaving the middle lobe hour-glass-shaped. Female described from specimens from Oswego County, N. Y.

Type locality: Springfield, Mass.

Redescribed from the type, 1 ♂, Sept. 20, 1909.

New York: Mud Pond, Oswego, Oct. 15, 1935, 1 ♂ 4 ♀. Sifted from moss in a bog.

#### **SISIS** new genus

Type: *Lophocarenum rotundum* Emerton.

In this genus the tail-piece of the embolic division is long and slender; the embolus is very long, arises from the base of the tail-piece in the interior of the bulb and lies in a flat coil on the ventrolateral face of the bulb. The tibia is armed with a rather long process.

#### **Sisis rotundus** Emerton

(Figures 22-24)

*Lophocarenum rotundum* Emerton. Can. Ent. 57: 67, fig. 3. 1925.

MALE. Length 1.8 mm. Cephalothorax chestnut brown with faintly developed darker radiating lines and darker margin.

Viewed from above, noticeably broad, the sides evenly rounded without any constriction at the cervical groove, strongly converging to the bluntly rounded front. Anterior eyes in profile. Cephalothorax viewed from the side steeply ascending behind and then very gradually ascending in an almost straight line to the posterior median eyes; the median ocular area slanting sharply forward; clypeus nearly straight and slightly retreating. Sternum reddish-brown strongly suffused with dusky, darker at the margin, broad, convex, smooth and shining. Labium brown; endites orange yellow suffused with dusky, lighter distally. Legs and palpi orange; the patellæ lighter, the coxæ below with a narrow band of black at tip. Abdomen dark greenish gray.

Posterior eyes in a straight line, equal and equidistant, separated by the diameter. Anterior eyes in an almost straight line, median only slightly smaller than the lateral, separated by the radius and from the lateral by nearly the diameter.

Femur of palpus long, slender, curved inward, only slightly widened distally. Patella moderately long, curved downward. Ratio of length of femur to that of patella as 11 to 6. Tibia produced into a long apophysis which arises on the mesodorsal angle and curves laterally over the base of the cymbium; the tip is bluntly rounded with the edge minutely dentate. Laterally from the apophysis there is a deep rounded emargination; the dorsolateral angle produced into a blunt tooth. Paracymbium very broad at base, stout and strongly curved. The tail-piece of the embolic division long, slender, and pointed at the tip, which extends beyond the edge of the cymbium. The terminal part of the tail-piece consists of two layers or leaves attached at one side like a partly opened book. The embolus arises directly from the tail-piece in the interior of the bulb; it is a very long, slender style and makes one large flat turn on the ventrolateral side of the bulb.

FEMALE. Length, 1.9 mm. Similar to male in form but stouter. Cephalothorax dull yellow suffused with dusky, legs somewhat lighter than in the male. Posterior eyes in a straight line, the median a little larger than the lateral, separated by the radius and from the lateral by a little more. Anterior eyes in a slightly procurved line; the median small, round, the lateral elon-

gate oval; the median separated by less than the radius and from the lateral by the radius.

The epigynum has the median fovea long and slender, broader in front than behind and overhung in front by a small pale triangular lobe. On each side of the fovea in front there is a shallow furrow which is bounded laterally by a distinct ridge. These ridges curve inward in front.

Described from the type, a male, in the collection of the Museum of Comparative Zoology at Cambridge, Mass. The female specimen preserved with the male is apparently not the specimen whose epigynum was described by Emerton.

Type locality: Terrace, B. C.

British Columbia: Terrace, 1923, 2 ♂, several ♀; Mar., 1933, 2 ♂ (Mrs. Hippisley).

Labrador: Cabot Lake, 1 ♂ (F. W. Waugh).

Washington: Sol Duc Hot Springs, Aug. 12, 1927, 5 ♂ 4 ♀.

Alaska: Admiralty Island, 1933, 6 ♂ 9 ♀ (Sheppard).

#### DICYMBIUM Menge

Preuss. Spinn. p. 193. 1868

Type: *Dicymbium clavipes* Menge, which equals *Neriene tibialis* Blackwall. Designated by Simon (Ar. Fr. 5: 541. 1884).

That *clavipes* was considered as the type of Menge is indicated by the fact that he refers to the figures of this species in the description of the genus. In 1884 Simon designated *tibialis* (*clavipes*) as the type but in 1894 (Hist. Nat. Ar. 1: 659) he designated *nigrum* (*gracilipes*). His later action was unjustified in view of the earlier designation of *tibialis*.

This genus is distinguished by the form of the cephalothorax, the form of the tibia of the male palpus and the peculiar development of the median apophysis of the genital bulb.

#### *Dicymbium elongatum* Emerton

(Figures 25-30)

*Lophomma elongatum* Emerton. Conn. Acad. Sci. Trans. 6: 44, pl. 10, fig. 2. 1882.

MALE. Length, 2 mm. Cephalothorax dark yellowish brown with darker radiating lines and a dark triangular area in front of the dorsal furrow. Head yellowish with a double median

brownish line extending from between the eyes backward. Cephalothorax viewed from above elongate ovate, evenly rounded on the sides behind, the sides rounded, convergent to the anterior median eyes which are borne on a blunt snout far in advance of the lateral eyes; viewed from the side, ascending rather steeply behind, then nearly flat along the back to the head, then rounded upward to the posterior median eyes; from the posterior median to the anterior median eyes slanting downward in a straight line. Clypeus very high, slightly concave and strongly retreating. Top of the head between the eyes and the median ocular area clothed with hairs directed forward; just back of the anterior median eyes the hairs are directed upward and backward. Sternum and labium dark brown, finely rugose. Sternum produced between the hind coxæ in a truncate inflexed point. Hind coxæ separated by a little more than the diameter. Endites yellow orange, deeply suffused with gray. Legs and palpi yellow, tinged with orange, the coxæ suffused with gray below. Chelicerae orange yellow, nearly normal in form, slightly divaricate, the upper margin of the furrow armed with 3 or 4 long teeth. Abdomen dark gray.

Posterior eyes in a straight line, equal, the median separated by three times the diameter and from the lateral by  $1\frac{1}{4}$  times the diameter. Anterior eyes in a recurved line, the median borne on the tip of a conical projection of the head, separated from each other by the radius and from the lateral by five times the diameter.

Femur of palpus gradually enlarged distally and curved inward. Patella short, gently convex above. Ratio of length of femur to that of patella as 25 to 11. Tibia short but provided with an extremely large dorsal apophysis which extends over three-fourths the length of the cymbium. The basal part is broad, curved mesally and clothed with hairs, thin and smoothly emarginate mesally, finely dentate at base on the lateral margin and armed with a broad triangular, nearly transparent tooth just before the bend. The apical third is bent sharply backward and outward at an acute angle; it is thinner, destitute of hairs, gently curved, and lies close to the cymbium. Paracymbium short, broad and strongly bent with a deep rounded notch before the tip. Bezel rather small. The mesal side of tegulum conspicuous, strongly chitinized and dark in color. The embolic division lies across the

tip of the bulb. The tail-piece is twisted, its basal part is large and broad, the tip small and twisted. The embolus is coiled spirally in two small turns; at its base there are two processes, a hyaline spine-like one directed towards the tip of the tarsus and a short, black, curved one at the base. The median apophysis extends across the tail-piece as a long, thin, slender, hyaline process. On the opposite side, visible only in the expanded bulb, it bears a stout tooth.

**FEMALE.** Length 1.6 mm. Similar to the male, but the head is normal and the cephalothorax relatively broader. Posterior eyes in a straight line, the median slightly larger than the lateral, equidistant, separated by three-fourths the diameter of the median. Anterior eyes in a slightly recurved line, the median smaller than the lateral, separated by the radius and from the lateral by a little more than the diameter. The epigynum consists of an oval transverse plate divided in the middle by a narrow fovea entirely occupied by a T-shaped middle lobe.

Type localities: Salem, Boston and Mt. Tom, Mass.

New York: Beaver River Flow, Aug. 8, 1931, 1 ♂; Wawbeek, June 13, 1927, 1 ♂ 2 ♀; Raquette Falls, Aug. 24, 1922, 1 ♂; McLean, May; Ringwood, Tompkins Co., May 20, 1919, 1 ♂ (Dietrich); Prattsburg, July 16, 1926, 1 ♂ 7 ♀; Pinekill, Sullivan Co., May 11, 1922, 1 ♂.

North Carolina: Summit Mt. Michell, Oct. 22, 1923, 2 ♂ 4 ♀.

This species is not related to *Lophomma* but is very close to the type of *Dicymbium*.

#### **SCIRITES** new genus

Type: *Dicymbius pectinatum* Emerton.

This genus is closely related to *Scolopembolus* having the same type of embolic division, but the tibia of the male palpus is of a different type, lacking the two teeth present in that genus. The anterior metatarsi are armed with a row of long curved spines.

#### **Scirites pectinatus** Emerton

(Figures 31-34)

*Dicymbium pectinatum* Emerton, Conn. Acad. Sci. Trans. 16: 389, pl. 1, f. 8, 1911.

**MALE.** Length, 1 mm. Cephalothorax orange yellow strongly



suffused with dusky, darker along the radiating lines and along the margin; viewed from above evenly and broadly rounded on the sides without any constriction at the cervical groove, broadly rounded across the front; viewed from the side, steeply ascending behind to the cervical groove, then more gently to the posterior eyes with a slight depression just in front of the cervical groove. Clypeus slightly convex and slightly protruding. Sternum dark gray, broad, strongly convex, smooth and shining. Endites and coxæ yellow suffused with dusky. Legs orange yellow, patella lighter. Abdomen dark gray, almost black. Metatarsus of first leg armed dorsomesally with a series of seven long strong, outwardly curving spines.

Posterior eyes in a straight line, equal and equidistant, separated by three times the radius. Anterior eyes in a slightly procurved line, the median only slightly smaller than the lateral, separated by the radius and from the lateral by the diameter.

Femur of palpus almost straight. Patella distinctly swollen. Ratio of length of femur to that of patella as 18 to 10. Tibia narrow at base, long, very obliquely truncate with the tarsus so inserted that it stands at nearly a right angle to the tibia; viewed from above broadly lanceolate, narrow at base, slightly curved mesally, bluntly rounded at tip, the dorsolateral margin, thin and incurved, ending laterally in a square point which at certain angles appears as a tooth. Paracymbium very small and very strongly curved. Tegulum protuberant ventrally; the bezel straight, dark gray to black and with the surface thickly and minutely denticulate; a few denticles present in the tegulum. Tail-piece of the embolic division rather long and slender, extending beyond the edge of the tegulum, broadened basally and then narrowed to a minute black point, the embolus. The embolus is protected by a broad, concave, membranous conductor. The median apophysis appears as a delicate, short, flattened process behind the embolus.

**FEMALE.** Length, 1 mm. Similar to male. The epigynum consists of a convex plate with a rectangular fovea occupied by a light colored median lobe overhung from in front by a thin plate rounded behind. The abdomen extends farther forward over the posterior part of the thorax than usual.

Type locality: Three Mile Island, Lake Winnepesaukee, N. H.  
 New York: McLean, April 30, 1930, 1 ♂; May 8, 1919, 2 ♂ 2 ♀;  
 May 30, 1919, 1 ♀; May 6, 1920, 1 ♂; Montauk Point, May 24,  
 1924, 2 ♂ 3 ♀.

**SCIRONIS** new genus

Type: *Tmeticus tarsalis* Emerton.

This genus is characterized by the peculiar position occupied by the base of the embolic division, in the middle of the tegular ring.

**Scironis tarsalis** Emerton

(Figures 35-37)

*Tmeticus tarsalis* Emerton. Conn. Acad. Sci. Trans. 16: 394, pl. 3, fig. 2, 1911.

MALE. Length, 1.5 mm. Cephalothorax dusky yellowish with darker radiating lines; viewed from above, evenly rounded on the sides, gently convergent towards the front, broadly rounded in front; viewed from the side, steeply ascending to the dorsal groove, then gradually rounded to the posterior eyes. Clypeus gently convex and slightly protruding. Sternum dark greenish gray with minute light spots, surface minutely pebbled, rather broad, convex, rounded on the sides convergent behind and produced in a truncated point between the hind coxæ which are separated by two-thirds of the diameter. Labium dark. Endites dusky yellow. Legs and palpi dusky orange yellow. Coxæ below mottled with grayish, narrowly marginated with gray. No tooth on face of chelicera. Abdomen dark greenish gray.

Posterior eyes in a slightly recurved line, equal, and equidistant, separated by a little less than the diameter. Anterior eyes in a straight line, the median smaller than the lateral, separated by less than the radius and from the lateral by the radius. Clypeus is as wide as the median ocular area.

Femur of palpus moderately long and stout, rather strongly curved. Patella short. Ratio of length of femur to that of patella as 12 to 4. Tibia as long as patella, strongly convex dorsally. The dorsal margin opposite the paracymbium thin, the lateral corner square, the front margin with a very small, rounded tooth and laterally with a minute pointed tooth. Paracymbium large, broad, strongly curved, notched before the tip, head round.

The lateral edge of the cymbium folded under forming a very deep groove, the lateral edge, towards the tip produced into an oblique, rounded lobe. The embolus arises at the middle of the tegular ring as an enlarged bulb. It is very long and slender; it first runs to the base of the tarsus then follows the edge of the cymbium around to the lateral side, then curves across the face of the bulb; the tip being very fine. The median apophysis consists of a black, sharp-pointed, slender process near the base of the embolus and serves to hold the first turn of the coiled embolus in position.

Type localities: Fall River, Mass.; Mt. Mansfield, Vt.; Crawford Notch, N. H.

New York: Great Pond, Riverhead, May 23, 1924, 1 ♂; Mt. Whiteface, Sept. 13, 1931, 2 ♂ (Hammer); East Aurora, May 13, 1928, 1 ♂ (Dietrich).

Vermont: Mt. Mansfield, Sept. 26, 1908, 2 ♂ 1 ♀.

Massachusetts: Holliston, Apr. 26, June 24, Oct. 14, 3 ♂.

#### SINORIA new genus

Type: *Sinoria rapidula* n. sp.

In this genus the tibia of the male palpus has the lateral angle broadly produced into a concave rounded lobe. The embolic division has the tail-piece greatly developed and deeply cleft by a narrow fissure into two parts. The embolus is short.

#### *Sinoria repidula* new species

(Figures 38-39)

MALE. Length, 1.5 mm. The whole specimen seems to have been faded and the colors are probably not normal. Cephalothorax pale yellowish; viewed from above decidedly broad, rounded on the sides, the sides strongly converging towards the front, rounded across the front, the eyes in profile; viewed from the side, rather high, steeply arched over the back to the eyes, highest back of the posterior median eyes. A median row of four stiff hairs back of the eyes. Clypeus broad, gently concave, nearly vertical. Sternum lightly suffused with gray, endites paler. Chelicerae with a tooth on the face. Legs and palpi pale yellow. Abdomen light gray.

Posterior eyes in a gently recurved line, equal, the median separated by the radius and from the lateral by a little more. Anterior eyes in a straight line, the median smaller than the lateral, separated by less than the radius and from the lateral by the radius.

Femur of palpus rather slender, a little thicker distally. Patella short. Ratio of length of femur to that of patella as 27 to 18. Tibia short, obconic, produced dorsally into a large, thin, smooth, broad, concave process or lobe,

rounded at apex and on the mesal side, lateral margin concave. Paracymbium strongly curved, widened in the distal third, curved and pointed at tip without a distinct notch. The tail-piece of the embolic division is a very large double structure occupying the greater part of the bulb; the two sides of the tail-piece are folded together so as to leave a narrow groove between; the lateral half has the inner margin thickened and black so as to be easily mistaken for a long black process; the embolus is short and attached to the distal angle of the mesal half; the tip bears a small tooth on each side, the duct opens in the lower one.

Holotype, male, Bocas del Toro, Panama. F. R. Swift, collector.

**SITALCAS** new genus

Type: *Sitalcas ruralis* n. sp.

In some respects this genus is related to *Gnathonarium* but it is distinguished by the form of the embolic division as a whole and by the course followed by the long, slender embolus.

*Sitalcas ruralis* new species

(Figures 40-42)

MALE. Length, 1 mm. Cephalothorax orange yellow lightly suffused with gray, narrowly margined with gray; viewed from above broadly rounded, the sides convergent toward the front, the eyes in profile; viewed from the side ascending in a straight line behind and then broadly arched over the back to the eyes, highest behind the eyes; the eyes on the anterior declivity. Sternum large, smooth, convex, light gray over pale orange. Endites pale orange. Legs pale orange yellow. Abdomen light gray.

Posterior eyes in a straight line, the median smaller than the lateral, equidistant, separated by the diameter. Anterior eyes in a straight line, the median much smaller than the lateral, separated by the radius and from the lateral by the diameter.

Femur of palpus moderately long and slender, slightly curved inward. Patella short. Ratio of length of femur to that of patella as 14 to 5. Tibia with the dorsal margin thin and smoothly rounded, the lateral excavation shallow and evenly rounded. Paracymbium wide at base, then slender and curved and enlarged at tip. Tail-piece of the embolic division transverse, laterally bluntly rounded; basally it is armed with an irregular protuberance and gives rise to a very long, style-like embolus which makes a loop across the face of the bulb, passes around back of the greatly enlarged median apophysis and the tip lies in a groove in a short process arising from the outer face of the median apophysis.

FEMALE. Length 1.1 mm. Similar to male. The epigynum a quadrate plate with the fovea transverse, bounded in front by an overhanging lobe, slightly notched in the middle.

Holotype, male; allotype, female and one male paratype.

Ithaca (Six-mile Creek), N. Y., April 24, 1926 (Seeley and Fletcher).

**SCIASTES** new genus

Type: *Tmeticus truncatus* Emerton.

In this genus we place a group of species in which the tibia of the male palpus is not produced over the base of the cymbium or only slightly so. The embolic division is very simple, the tail-piece being a nearly flat, elongate plate that gives rise directly to a short pointed embolus. The most aberrant member of the group is *terrestris*, but we place it here because of the form of the tibia.

**Sciastes acuminatus** Emerton

(Figures 43-45)

*Tmeticus acuminatus* Emerton. Am. Mus. Nat. Hist. Bul. 32: 256, pl. 48, fig. 3. 1913.

MALE. Length, about 1 mm. (abdomen off). Cephalothorax dull honey-yellowish, viewed from above rather broad across the middle, the sides converging in nearly straight lines towards the front, rounded across the front; viewed from the side, rather steeply ascending behind, then very gently arched over the back to the posterior eyes. Clypeus nearly straight, slanting forward. Sternum light gray over yellow, triangular with the sides somewhat rounded towards the front. In the other specimen the sternum is much narrower with the sides straight, a condition probably due to shrinkage. Endites paler than sternum. Chelicerae rather weak, retreating, without a tooth on face. Legs and palpi dull yellowish. Abdomen gray.

Posterior eyes in a procurved line, separated by less than the diameter. Anterior eyes in a slightly recurved line, the median smaller than the lateral, all very close together.

Femur of palpus nearly straight, fairly thick and compressed. Patella short. Ratio of length of femur to that of patella as 11 to 4; tibia on ventral side 4, on dorsal, 6. Tibia dorsally produced forward in a broad, thin, truncate process, the anterior margin of which is distinctly concave and the corners angulate, the inner one more acute. Paracymbium very small and strongly curved. The embolic division consists of a thin, flat plate with a short curved tooth on the anterior edge, through which the ejaculatory duct opens.

Type locality: Lakehurst, N. J.

New Jersey: Lakehurst, May 1, 1912, 2 ♂, the types.

Massachusetts: Hammonds Pond, May 1, 1906, 1 ♂ (Bryant).

### **Sciastes concavus** Emerton

(Figures 46-47)

*Tmeticus concavus* Emerton. Conn. Acad. Sci. Trans. 6: 57, pl. 17, fig. 3. 1882.

*Edothorax concavus* Crosby. Phila. Acad. Nat. Sci. Proc. 1905, p. 311.

MALE. Length 1.8. Cephalothorax yellow orange, viewed from above, evenly rounded on the sides to the cervical groove and then converging towards the front, evenly and broadly rounded across the front; viewed from the side rather low, gently ascending behind, then very gently rounded over the top to the posterior median eyes. A median row of 5 long hairs directed forward. Clypeus nearly straight and slightly protruding. Sternum yellow-orange suffused with gray, convex, the sides crenulate, somewhat produced between the hind coxæ. Labium and endites lighter. Legs yellow-orange. Abdomen light gray.

Posterior eyes in a straight line, equal, separated by three-fourths the diameter and from the lateral by the radius. Anterior eyes in a straight line, the median smaller than the lateral, separated by two-thirds the diameter and a little farther from the lateral.

Femur of palpus moderately long, gradually widened distally, curved inward. Patella short and broad, convex above. Ratio length of femur to that of patella as 24 to 8. Tibia obconic, the margin unmodified by processes or emarginations. The paracymbium extraordinarily developed, the basal part very wide and concave, armed at base with two small hairs, the terminal part very broad and thin, separated from the basal part by a thin ridge armed with two or three small hairs. The tail-piece of the embolic division, broad and flat, the tip turned inward at nearly a right angle; the ejaculatory duct opens on it through a short pointed embolus.

Type localities: Clarendon Hills near Boston, Mass., and New Haven, Conn.

Massachusetts: Readville, Nov. 6, 1913, 2 ♂ (Emerton); 1908, 23 ♂ (Emerton); Blue Hills, Nov. 28, 1914, 1 ♂ (Emerton); Monponset, June 12, 1915, 1 ♂ (Emerton); Hyde Park, May 14, 1875, ♂ (type); Ipswich, May 18, 1919, 2 ♂.

New York: Raquette Lake, June 11, 1927, 4 ♂; Mendon Ponds, Monroe Co., May 18, 1930; Cinnamon Lake, Schuyler Co., June 10, 1934, 1 ♂.

Quebec: Ile d'Alma, Lac St-Jean, July 28, 1934, 1 ♂ 2 ♀.

Vermont: Mt. Mansfield, July 5, 1935, 2 ♂.

### *Sciastes microtarsus* Emerton

(Figures 48-49a)

*Tmeticus microtarsus* Emerton. Conn. Acad. Sci. Trans. 6: 57, pl 17, fig. 4. 1882.

*Edothorax microtarsus* Crosby. Phila. Acad. Nat. Sci. Proc. 1905, p. 311.

MALE. Length, 1.5 mm. Cephalothorax dusky yellowish, darker at the margin with darker radiating lines, eye area black; viewed from above evenly rounded, convergent toward the front, truncated in front, the eyes not occupying the whole width of the head. Cephalothorax viewed from the side steeply ascending to the cervical groove, then rounded evenly over the head to the posterior eyes, highest just behind the posterior eyes. Clypeus straight and vertical. Sternum gray, pebbled with yellowish, rather long, gently rounded on the sides and narrowly produced between the hind coxæ which are separated by a little less than the diameter. Endites dusky orange-yellow. No tooth on face of chelicera. Legs and palpi pale orange-yellow. Abdomen greenish gray, lighter below.

Posterior eyes in a straight line, equal, the median separated by the radius and a little farther from the lateral. Anterior eyes in a slightly recurved line, median smaller than the lateral, oval, convergent and subcontiguous below, almost touching the lateral. Clypeus only a little more than half as wide as the ocular area.

Femur of palpus rather short and stout, a little widened distally and rather strongly bent. Patella short and widened distally. Ratio of length of femur to that of patella as 18 to 7. Tibia longer than broad, evenly widened distally without an apophysis but the

margin slightly thickened at the point where it usually occurs. Cymbium small. Paracymbium a broad plate bent at a right angle with a sharp triangular notch before the tip, base swollen and bearing a few hairs. Subtegulum narrow; bezel with a sharp tooth on the edge. The tail-piece of the embolic division consists of a broad, flat, semicircular plate which is pointed at the ventral corner and has the embolus attached to it by a stalk. The embolus is very small, broadly pyriform and ends in a sharp black point which is strongly curved to the side. The median apophysis curves around the embolus and ends in a minute black point.

FEMALE. Length, 1.6 mm. Colored like the male. The anterior median eyes more nearly round, subcontiguous, but separated from the lateral by the radius. Epigynum is a strongly chitinized convex plate produced to a blunt point behind, gently emarginate on the sides.

Type locality: Mt. Washington, N. H., in moss under the highest trees.

New York: Mt. Whiteface, Essex Co., Aug. 22, 1916, 3 ♂ 5 ♀; Oct. 21, 1934, 2 ♂ 1 ♀.

Colorado: Pingree Park, Larimer Co., Aug. 20, 1924, 2 ♂.

### **Sciastes simplex** Chamberlin

(Figures 50-53)

*Grammonota simplex* Chamberlin. Ent. Soc. Am. An. 12: 250, pl. 18, fig. 1, 2. 1919.

MALE. Length, 2 mm. Cephalothorax dusky orange-yellow, viewed from above evenly rounded, convergent towards the front, rounded on the frontal angles, straight across in front; viewed from the side posterior declivity steeply ascending, then gradually rounded over to the posterior eyes. Clypeus straight and almost vertical.

Sternum yellow suffused with dusky, darker at margin, broad, convex, rounded on the sides, produced in a truncate point between the hind coxæ, which are separated by a little less than the diameter. Labium and endites dusky orange-yellow. Legs and palpi yellowish. Abdomen grayish black.

Posterior eyes in a straight line, equal, equidistant, separated by the diameter. Anterior eyes in a very slightly recurved line,



the median smaller than the lateral, separated by a little less than the radius and from the lateral by a little more. Clypeus as wide as median ocular area. No tooth on face of chelicera.

Femur of palpus rather slender, moderately long, rather strongly curved. Patella moderately convex above. Ratio of length of femur to that of patella as 20 to 8. Tibia longer than patella, only moderately enlarged distally, dorsal margin thin, evenly rounded without teeth or apophysis. Paracymbium very large, nearly flat, broadly rounded on the side toward the tip of the palpus, straight on the mesal side where it is opposed by a prolongation of the base of the cymbium, with a broad rounded notch on the side next to the base, armed at base with three short hairs. Bezel high and produced into a rounded apophysis. Tail-piece of the embolic division long, rounded at tip and extending to the edge of the cymbium. At the base on the ventral side it gives rise directly to the black, sharp, pointed style-like embolus, the tip of which lies next to the apophysis on the bezel. The median apophysis appears as a broad, blackish rounded lobe with a serrate edge lying back under the tip of the cymbium.

FEMALE. Length, 2 mm. Similar to the male. Posterior eyes in a straight line, the median a little larger than the lateral, equidistant, separated by a little less than the diameter. Anterior eyes in a straight line, the median smaller than the lateral, separated by the radius and a little farther from the lateral. The epigynum is a transverse plate overlain in the middle by a transparent plate which projects a little back of the margin.

Described from 1 ♂ 1 ♀, paratypes, Chalk Creek, Uintah Mts., 7500 ft., Utah.

Colorado: Pingree Park, Aug. 20, 1923, 1 ♀ (sifted from moss).

Idaho: Emigration Canyon, Aug. 29, 1928, 2 ♂ (Gertsch).

Wyoming: Yellowstone Park, Grand Canyon, Aug. 30, 1927, 3 ♂ 7 ♀.

British Columbia: Terrace, June 1-10, 1931, 1 ♂ (Hippisley).

Utah: Teacup Lake, Uintah Mts., Sept. 5, 1931, 2 ♂.

### *Sciastes terrestris* Emerton

(Figures 54-56)

*Tmeticus terrestris* Emerton, Conn. Acad. Sci. Trans. 6: 57, pl. 17, fig. 6. 1882.

*Edothorax terrestris* Crosby, Phila. Acad. Nat. Sci. Proc. 1905, p. 313.

*Microneta clavata* Emerton, Can. Ent. 49: 265, f. 17. 1917.  
(Types compared.)

MALE. Length, 1.5 mm. Cephalothorax dusky orange; viewed from above rather narrow, evenly rounded on the sides, slightly convergent towards the front, broadly rounded in front; viewed from the side rather steeply ascending behind, then evenly rounded over to the eyes. Clypeus slightly convex and protruding. Sternum orange-yellow, convex, rounded on the sides, convergent behind and produced in a broad truncated point between the hind coxæ which are separated by the diameter. Labium and endites same color as sternum. No tooth on face of chelicera. Legs and palpi yellowish orange. Abdomen yellowish gray.

Posterior eyes in a straight line, equal, equidistant, separated by a little more than the diameter. Anterior eyes in a straight line, the median smaller than the lateral, separated by a little less than the diameter and from the lateral by three times the radius. Clypeus about as wide as the median ocular area.

Femur of palpus moderately long and slender, slightly curved. Patella short, rather strongly arched above. Ratio of length of femur to that of patella as 15 to 5. Tibia a little longer than patella, widened distally but not produced into teeth; armed back of the margin by a regular, transverse row of long hairs. The paracymbium very strongly curved, with three rounded teeth on the inner margin. Tegulum strongly developed, a distinct tooth on the bezel. Tail-piece of the embolic division very large, quadrate, the tip greatly narrowed, pointed and extending to the edge of the cymbium. The lateral corner farthest from the cymbium black, sharply angulate; at the opposite angle there is a longer pointed process; behind this arises the rather elongate embolus. The median apophysis appears as a rather long, slightly curved black process back of the embolus.

FEMALE. Length, 1.5 mm. Similar to male in form and color. The epigynum is a transverse, convex plate with a very large oval opening in the middle. Behind the opening there is a transverse middle lobe. Female described from a specimen from Roslyn, New York.

Type localities: Mt. Tom, Holyoke and Salem, Massachusetts.

Massachusetts: Blue Hills, Milton, near Boston, Oct. 8, 1904, 1 ♂ 1 ♀; Nov. 23, 1914, 1 ♂; Nov. 28, 1914, 1 ♂ 1 ♀ (Emerton); Clarendon Hills, Nov. 12, 1908, 1 ♂ (Bryant); Hammonds Pond, Nov. 8, 1904, 1 ♂ (Bryant); Ipswich, May 18, 1919, 2 ♂ (Emerton).

New York: Roslyn, 3 ♂ 2 ♀ (Banks); Coram, April 3, 1931, 1 ♂; Poughkeepsie, April 19, 1931, 1 ♂; Ithaca, May 16, 1926, 1 ♂ 2 ♀ (Seeley & Fletcher); Wilmington Notch, Aug., 1916, 1 ♂, the type of *Microneta clavata* Em., not the ♀; Fish Pond Creek, Franklin Co., Sept. 6, 1931, 1 ♂ 3 ♀.

Ontario: Toronto, April 9, 1934, 3 ♂ (Dymond).

Michigan: Albion, April 12, 1933, 3 ♂ 2 ♀; Dec. 18, 1933, 1 ♂ (Chickering).

### *Sciastes truncatus* Emerton

(Figures 57-59)

*Tmeticus truncatus* Emerton. Conn. Acad. Sci. Trans. 6: 57, pl. 17, fig. 5. 1882.

*Edothorax truncatus* Crosby. Phila. Acad. Nat. Sci. Proc. 1905, p. 313.

*Gongylidium truncatus* Emerton. Royal Can. Inst. Trans. 12: 316. 1919.

MALE. Length, 2 mm. Cephalothorax orange-yellow, viewed from above rather long, rounded on the sides, slightly convergent towards the front, nearly straight across the front, the eyes occupying the whole width; viewed from the side, steeply ascending behind, then more gradually ascending to the back of the head, rounded over the top of the head. Clypeus almost vertical and slightly convex. Sternum dusky orange, darker at the margin, broad and convex, rounded on the sides, tapering behind and produced in a blunt point between the hind coxæ which are separated by a little less than the diameter. Labium dusky. Endites dusky orange. Legs and palpi bright orange-yellow. Legs long and somewhat hairy. Abdomen grayish yellow with narrow indistinct transverse light lines. Chelicerae rather large, somewhat divaricate.

Posterior eyes in a straight line, equal, the median separated

by a little less than the diameter and from the lateral by the diameter. Anterior eyes in a slightly recurved line, the median smaller than the lateral, subcontiguous, separated from the lateral by the diameter. Clypeus as wide as median ocular area.

Femur of palpus rather stout, moderately long and moderately curved. Patella rather long and almost straight. Ratio of length of femur to that of patella as 25 to 10. Tibia about as long as patella, widened distally and produced dorsally into a thin, wide, squarely truncated lobe; dorsolateral angle with a deep, evenly rounded notch. Paracymbium very large, surrounding the base of the bulb, and reaching to the base of the cymbium on the opposite side where it is armed with two long, slender hairs. The extreme base armed with five small stiff hairs. The base, separated from the main part by a deep cleft. Bezel rather low, rounded on the edge. Tail-piece of the embolic division short and broad and rounded at tip with a finger-like process on the side next to the cymbium. The embolus arises directly from it and is obliquely narrowed, rather short and ends in a sharp point.

FEMALE. Length, 2 mm. Similar to the male, the legs more distinctly hairy, the chelicerae robust but not so divaricate. Posterior eyes in a straight line, equal, equidistant, separated by three-fifths of the diameter. Anterior eyes in a very slightly recurved line, the median smaller than the lateral, separated by less than the radius and from the lateral by a little less than the diameter. The epigynum is a transverse oval plate notched behind by a truncate triangular fovea, filled by a pale yellow, smooth, convex, middle lobe.

Type locality: Mt. Washington, N. H., in moss under the highest trees.

Maine: Molunkus Pond, Aug. 25, 1925, 1 ♂; Presque Isle, Aug. 26, 1925, 3 ♂ 3 ♀.

Massachusetts: Carlisle Pines, Oct. 26, 1907, 1 ♂ (Bryant).

New York: Artist Brook, June 11, 1933, 1 ♂; Auger Pond, Essex Co., Nov. 16, 1916, 1 ♂; Black Brook, June 10, 1933, 1 ♂; Brant Lake, Oct. 3, 1931, 1 ♂; Cadyville, June 9, 1933, 1 ♂ 1 ♀; Mt. Marcy, Aug. 27, 1930, 2 ♂; Mt. Whiteface, Essex Co., Aug. 1916, 3 ♂; Aug. 25, 1921, 2 ♂; Wawbeek, Oct. 22, 1934, 4 ♂ 4 ♀; Peru, Oct. 22, 1934, 1 ♂.

Quebec: Bagotville, July 26, 1934, 1 ♂ 2 ♀.

British Columbia: Terrace, March, 1933, 1 ♂ 1 ♀ (Hippisley).

Alaska: Admiralty Island, 1933, 1 ♂ 6 ♀ (Sheppard).

*Sciastes ursinus* new species

(Figures 60-61)

MALE. Length, 1.4 mm. In the series of specimens before us there is great variation in the depth of coloring. The following description is from the best colored male. Cephalothorax dull chestnut brown with darker radiating lines and a dark patch on the back of the head connected with the eyes by dark lines; viewed from above evenly rounded on the sides with scarcely any constriction at the cervical groove, rounded across the front; viewed from the side, steeply ascending behind, then more gradually, gently rounded over the head. Clypeus concave below the eyes, then straight and slightly protruding. Sternum nearly black, with minute yellowish dots. Endites dull yellowish suffused with dusky except at tip. Legs dull yellow. Abdomen nearly black.

Posterior eyes in a straight line, equal and equidistant, separated by the diameter. Anterior eyes in a straight line, the median smaller than the lateral, equidistant, separated by the radius.

Femur of palpus nearly straight. Patella short. Ratio of length of femur to that of patella as 18 to 7. Tibia short, obconic, the dorsal margin squarely truncate, the edge black, minutely dentate; the lateral margin thin, smoothly rounded, the outer angle armed with three long spines. Paracymbium large, strongly curved, only slightly hooked at tip. The embolic division roughly triangular with the tail-piece at the lateral basal angle, the short nipple-like embolus at the apex and with the mesal angle sharply bent and produced into a fan-shaped process the outer edge of which is thickened like the ray in a fish's fin. The tail-piece is broad and ends in a rounded point; it is crossed diagonally by a ridge which continues to form the rounded tip that bears the short black nipple-like embolus.

Holotype, male, Longmire, Wash. Aug. 22, 1927, 3 male paratypes with same data.

*Sciastes vicosanus* new species

(Figures 62-64)

MALE. Length, 1.1 mm. Cephalothorax clear pale orange yellow with a median row of 4 hairs back of the eyes; viewed from above rather broad, evenly rounded on the sides without any constriction whatever at the cervical groove, broadly rounded across the front; the anterior eyes in profile; viewed from the side, steeply ascending behind to the cervical groove and then more gradually to the eyes, very gently arched back of the eyes. Clypeus straight and nearly vertical. Sternum rather broad, yellow, slightly suffused with

dusky. Endites slightly brownish. Legs pale yellow. Chelicera armed with a lateral row of three teeth, a blunt tooth on the face. Abdomen pale, nearly white.

Posterior eyes in very slightly recurved line, equal and equidistant, separated by less than the radius. Anterior eyes in a slightly recurved line, the median smaller than the lateral, subcontiguous, a little farther from the lateral.

Femur of palpus moderately stout, slightly thicker distally, curved inward, armed ventrolaterally with a row of 3 stiff hairs. Patella short, cylindrical. Ratio of length of femur to that of patella as 17 to 5. Tibia obconic, the dorsal margin very thin and depressed transversely, excavated, the edge smoothly rounded, back of the excavation there is a secondary margin which is nearly straight. Paracymbium relatively very large, angulate mesally, the tip broadly pointed, the notch very deep. Tail-piece of the embolic division broad and nearly flat, rounded at tip with a broad projection towards the edge of the cymbium. The embolus very small, thin and spirally arising just under the edge of the base of the tail-piece where there is a blackish lump bearing two minute teeth.

FEMALE. Length, 1.1 mm. Similar to the male in form and color. Teeth on the outer edge and face of chelicerae lacking. The epigynum nearly flat with the openings in the posterior margin; the receptacles ovate, separated by about half the diameter.

Holotype male, allotype female. Viçosa, Minas Gerais, Brazil, July 6, 1933, also ♂ and ♀ paratypes. E. J. Hambleton, collector.

#### GNATHONAROIDES new genus

Type: *Araoncus pedalis* Emerton.

This genus is closely related to *Gnathonarium* in the structure of the genital bulb but differs from it in the form of the tibial armature; this process is long, nearly straight and sharp-pointed.

#### *Gnathonaroides pedalis* Emerton

(Figures 65–66)

*Araoncus pedalis* Emerton. Can. Ent. 55: 239, fig. 2. 1923.

MALE. Length, 1.3 mm. Cephalothorax light yellowish, the extreme margin blackish; viewed from above, rather broad, evenly rounded on the sides to the eyes, broadly rounded in front; viewed from the side, gently rounded over the posterior declivity to the cervical groove, then gently and broadly curved over to the posterior eyes. Highest part back of the eyes. Clypeus almost straight and very slightly protruding. Sternum pale greenish gray, strongly convex, evenly rounded on the sides, produced in

a truncated point between the hind coxæ which are separated by the diameter. Labium and endites yellowish. Two small setigerous tubercles on the face of the chelicera. Legs and palpi nearly white. Abdomen greenish gray.

Posterior eyes in a straight line, equal, the median separated by the diameter and a little farther from the lateral. Anterior eyes in a straight line, the median much smaller than the lateral, the median separated by the radius and from the lateral by a little more than the diameter. Clypeus about as wide as median ocular area. A long median hair on clypeus and a shorter one on each side just below and to the side of the anterior median eyes.

Femur of palpus moderately long, rather strongly curved and widened distally. Patella rather short and evenly rounded above. Ratio of length of femur to that of patella as 16 to 7. Tibia a little shorter than patella, widened distally and armed with a very long, basally stout and apically slender, incurved, dorsal apophysis. Lateral margin of the cymbium with a broad rounded lobe. The paracymbium moderately slender and very strongly curved; the base obliquely truncate and corners produced as sharp points; the tip is widened and twisted half-way around, armed at base with a longitudinal row of 4 stiff hairs. The bezel is high, narrow, and roundly truncate at tip. The tail-piece of the embolic division lanceolate with its margin parallel with that of the cymbium; the tip of the tail-piece is directed toward the tip of the cymbium; on the side away from the cymbium it bears a small rounded lobe. The embolus arises at the extreme base of the tarsus and is very long and slender; it makes an S-shaped loop across the face of the genital bulb and the very fine tip lies near the bezel. The median apophysis consists of a long, erect process, basally stout and reddish, apically more slender and black, and ending in a very fine, spirally twisted tip. At the base of the apophysis is a small, erect, round tooth. The conductor is a prominent, lanceolate process somewhat twisted and with a sharp beak-like tip.

Type locality: Dauphin, Manitoba.

New York: Altamont, April 12, 1924, 8 ♂; Mountain Lake, Fulton Co., April 26, 1923, 1 ♂.

**SISYRBE** new genus

Type: *Tmeticus rusticus* Banks.

We find it necessary to establish a new genus for this species because it seems to be unrelated to any of the *Erigoneæ* known to us either in America or Europe. It is characterized by the peculiar form of the paracymbium, the deeply incised cymbium, the remarkable length of the embolus and its peculiar course. Only the unique type is known.

**Sisybe rustica** Banks

(Figures 67-68)

*Tmeticus rusticus* Banks. Phila. Acad. Nat. Sci. Proc. 1892, p. 39, pl. 2, fig. 17.

*Edothorax rusticus* Crosby. Phila. Acad. Nat. Sci. Proc. 1905, p. 313.

*Tmeticus rusticus* Banks. Phila. Acad. Nat. Sci. Proc. 1916, p. 74, pl. 10, fig. 10.

MALE. Length, 1.5 mm. Cephalothorax evenly and broadly rounded on the sides, abruptly constricted at the cervical groove, broadly rounded across the front; viewed from the side, rather low, moderately ascending in a nearly straight line to the cervical groove and then gently rounded over the head to the posterior eyes. Clypeus straight and nearly vertical. Sternum rather broad, strongly convex. Endites lighter. Legs orange-yellow. Abdomen gray.

Posterior eyes in a straight line, equal, and equidistant, separated by the diameter. Anterior eyes in a very slightly procurved line, the median only slightly smaller than the lateral, equidistant, separated by a little less than the diameter.

Tibia short, viewed from above diagonally quadrate, the angles rounded, the lateral angle lies over the tip of the dorsal branch of the paracymbium. Paracymbium extraordinarily developed, consisting of a broad, thin, triangular basal part which gives rise to two branches, the tip of the first lies under the lateral margin of the tibia, the other branch is very much larger and longer and ends in a broadly pointed outer angle and a deeply notched and hooked inner angle. The cymbium is very deeply notched on both sides before the middle, the mesal notch is occupied by the tip of the tail-piece of the embolic division. The tail-piece of the embolic division rather stout and dumbbell-shaped; it gives rise



within the bulb to a very long, slender, styliform embolus which lies in a flat coil of about one and one-half turns on the side of the tip of the bulb.

Type locality: Buttermilk Creek, Ithaca, N. Y.

Redescribed from the type.

**SCOTOUSSA** new genus

Type: *Tmeticus bidentata* Emerton.

This genus is distinguished by the form of the embolic division of the male palpus which bears a long ventral branch or process. The dorsal margin of the tibia has a shallow, rounded notch.

**Scotoussa bidentata** Emerton

(Figures 69-71)

*Tmeticus bidentatus* Emerton. Conn. Acad. Sci. Trans. 6: 56, pl. 17, fig. 2, 1882.

*Edothorax bidentatus* Crosby. Phila. Acad. Nat. Sci. Proc. 1905, p. 310.

*Tmeticus bidentatus* Emerton. Conn. Acad. Sci. Trans. 14, pl. 4, fig. 6, 1909. (Figure of epigynum of another species.)

MALE. Length, 1.5 mm. Cephalothorax orange-yellow, lightly dusted with gray; viewed from above rather broad, rounded on the sides, not constricted at the cervical groove, convergent towards the front, rounded in front; viewed from the side, rather steeply ascending behind, nearly flat on top, feebly depressed at the cervical groove, gently rounded over the head to the posterior eyes, highest just behind the eyes. Clypeus straight and nearly vertical, a little narrower than the median ocular area. Sternum and labium greenish gray over yellow, endites orange-yellow. Sternum rather long, gradually narrowed to the hind coxæ, then abruptly narrowed to a slender piece which separates the hind coxæ by less than the diameter. Legs and palpi pale yellowish. Abdomen gray. Epigastric plates pale yellowish, finely striate.

Posterior eyes in a straight line, the median separated by a little less than the diameter and from the lateral by the radius. Anterior eyes in a gently recurved line, the median smaller than the lateral, subcontiguous and separated from the lateral by the radius.

Femur of palpus long, slender, thicker distally and distinctly curved inward. Patella short, only a little longer than broad. Ratio of length of femur to that of patella as 12 to 4. Tibia in a full back-view shows a broad, square-tipped process and a smaller and shorter acute one on the side next to the paracymbium, separated by a small rounded notch. To show the two teeth as Emerton has figured them, it must be viewed from far over on the side. Paracymbium strongly curved with a sharp recurved hook at tip and armed at the base with a row of three stiff hairs. The embolic division consists of a rather thick, round-pointed tail-piece, the tip of which is much narrower than the main part and when viewed from the side appears notched below. The terminal part of the embolic division arises directly from the tail-piece from which it is separated by a distinct constriction; it is rather broad and thin, narrower at base and widened distally; it is arched upward and concave below, the surface marked with three strong radiating ridges, each ridge continued at the tip to form a sharp point. The outer (ventral) point contains the ejaculatory duct and bears a rounded lobe beneath it, the middle point is hyaline, and the inner point is stouter and black. At the base of the terminal part of the embolic division there is a rather long, stout, black, curved horn.

FEMALE. Length, 1.8 mm. Similar to the male in form and color. Epigynum when cleared is seen to consist of two lobes; the anterior lobe extends back over the posterior lobe so that the latter appears as a narrow transverse plate. The hind margin of the anterior lobe is rounded in the middle and gently concave on the sides. When not cleared and viewed directly from below the posterior lobe is invisible and the anterior lobe appears more pointed behind. There seems to be a slight depression on the face of the anterior lobe.

The female is described from a series of specimens taken with males on Mt. Whiteface, N. Y. Emerton's figure of the epigynum (1909) is apparently from another species.

Type locality: Mt. Washington, N. H.

Quebec: Bagotville, July 26, 1934, 10 ♂; Herbertville, July 29, 1934, 8 ♀.

Maine: Presque Isle, Aug. 26, 1925. 3 ♂ 3 ♀.

New Hampshire: Base Station, Mt. Washington, Aug. 18, 1925, 9 ♀; under highest trees, July 5, 1925, 1 ♂ 4 ♀.

New York: Mt. Whiteface, Essex Co., Aug. 22, 1916, 17 ♂ 16 ♀; Aug. 25, 1921, 1 ♂ 6 ♀; Oct. 21, 1934, 5 ♂ 18 ♀; Mt. MacIntyre, Essex Co., July 1, 1923, 4 ♂ 1 ♀; Mt. Marcy, Aug. 27, 1930, 7 ♂ 11 ♀; Lake Tear, Sept. 14, 1922, 2 ♂ 3 ♀; Avalanche Lake, July 24, 1925, 2 ♂; Uphill Brook and Opalescent River, Essex Co., July 1918, 6 ♀; Chapel Pond, June 27, 1923, 1 ♂ 3 ♀; Artist's Brook, Essex Co., June 11, 1933, 2 ♂; Oct. 20, 1934, 14 ♂ 15 ♀; Sept. 7, 1931, 2 ♂ 2 ♀; Slide Mt., Ulster Co., June 24, 1934, 1 ♂ 4 ♀.

Vermont: Top of Mt. Mansfield, June 14, 1927, 1 ♂ 1 ♀.

Alberta: Sulfur Mt., Banff, Aug. 22, 1927, 2 ♂ 2 ♀.

This species has also been recorded by Emerton from Vermont: Mt. Mansfield; Maine: Mt. Katahdin; Fort Fairfield; New Hampshire: Sandwich Mts.; Labrador: Battle Harbor; Alberta: Banff; Jasper.

#### SCYLETRIA new genus

Type: *Scyletria inflatus* new species.

In this genus we place two species because of the similarity in the structure of the embolic division of the male palpus. There is a sharp turn between the tail-piece and the base of the flattened embolus. The tibia has a notch leaving the two processes of about equal length. The two species included in this genus can be separated by the form of the tibia of the male palpus as shown in the figures.

#### *Scyletria inflata* new species

(Figures 72-74)

MALE. Length, 1.6 mm. Cephalothorax dusky over dull yellow, darker at the margin; viewed from above evenly and broadly rounded on the sides, rather abruptly convergent toward the front, eyes in profile; viewed from the side, rather steeply ascending behind to the cervical groove where there is a rather broad depression, gently rounded over the head to the posterior median eyes. Median ocular area sloping steeply downward. Clypeus nearly vertical, concave. Sternum dark gray, nearly black. Labium gray, endites dusky orange, lighter distally. Legs pale yellow. Abdomen dark gray, almost black.

Posterior eyes in a very slightly recurved line, equal and equidistant, separated by the diameter. Anterior eyes in a straight line, the median slightly smaller than the lateral, separated by a little less than the radius and from the lateral by a little less.

Femur of palpus long, slender, curved inward. Patella short and rather

thick. Ratio of length of femur to that of patella 21 to 7. Tibia dark, contrasting in color with the femur and patella, strongly compressed laterally. Viewed from the mesal side strongly convex above the distal margin with a broad, rounded lobe; the dorsolateral process viewed from this angle appears to end in two teeth; the upper nearly straight and stouter, the lower one stout at base, slender at tip, upturned. Tibia viewed from above shows the broad, rounded lobe on the mesal side with a shallow rounded emargination between it and the dorsolateral process, armed in the middle of the excavation with a stout, triangular tooth. In this view only the upper tooth of the dorsolateral process is visible. The lateral margin of the tibia has a very deep, rounded excavation. Paracymbium slender at base, thick and heavily chitinized, the nearly flat, terminal portion roughly triangular, the tip very broad, divided into two lobes by a deep, oblique rounded notch. The tail-piece of the embolic division is triangular with the proximal angle acute, rounded next to the edge of the cymbium. It gives rise to a broad, thin embolus which is folded lengthwise on itself, the two parts being nearly parallel. The duct opens in the lateral corner of the ventral layer.

Holotype, male. Raquette Lake, N. Y., June 11, 1927.

North Carolina: Summit of Mt. Mitchell, Oct. 12, 1923, 3 ♂.

#### *Scyletria jona* new species

(Figures 75-76)

MALE. Length, 1.1 mm. Cephalothorax pale orange yellow slightly darker towards the head; viewed from above evenly and broadly rounded on the sides without any constriction at the cervical groove, broadly rounded across the front; viewed from the side broadly and evenly rounded over the back to the posterior median eyes. Clypeus very slightly concave and slightly retreating. Sternum broad, strongly convex, pale yellow. Labium and endites slightly darker. Chelicerae armed with a distinct tooth on face. Legs and palpi pale yellow. Abdomen dull yellowish white.

Posterior eyes in a straight line, equal, the median, oval, separated by the short diameter, the same distance from the lateral. Anterior eyes in a very slightly recurved line, the median very much smaller than the lateral, subcontiguous, separated from the lateral by the radius.

Femur and patella of palpus normal. Ratio of length of femur to that of patella as 15 to 5. Tibia darker than patella, strongly compressed and widened ventrodorsally. Viewed from the mesal side evenly convex above and below, with two large blunt teeth above, the distal margin concave, with a broad, triangular tooth in the middle, dorsally the tibia is produced into a broad, oblique process which is separated into two parts by a deep notch the sides of which are parallel. The paracymbium is extraordinarily developed, the terminal part quadrate with the mesal angle acutely produced and the tip with a very broad, rounded hook. The tail-piece of the embolic division is represented by a triangular plate the lateral edge of which is rolled up

to form a rounded ridge. Laterally from this ridge, and separated from it by a deep furrow, is another parallel ridge which ends in a sharp point. The embolus itself arises back of these ridges and is short, rather stout, curved and ends in a black point. The median apophysis appears as a broad, quadrate plate.

Holotype, male. Ithaca, N. Y., May 17, 1924, found in stomach of brook trout by H. J. Pack.

#### SCYLACEUS new genus

Type: *Tmeticus pallidus* Emerton.

Here we place two species in which the tibia of the male palpus has a rather long process on the dorsomesal angle. The embolic division has an elongate tail-piece. In *pallidus* the embolus is long and slender while in *obtusus* it is shorter. The duct opens in the mesal branch of the embolus in both species. The lateral branch is much longer in *obtusus*.

#### *Scylaceus pallidus* Emerton

(Figures 77-80)

*Tmeticus pallidus* Emerton, Conn. Acad. Sci. Trans. 6: 55, pl. 16, fig. 4, 1882.

*Erigone pallescens* Marx, U. S. Nat. Mus. Proc. 12: 535, 538, 593, 1890.

*Gongylidiellum pallidum* Crosby, Phila. Acad. Nat. Sci. Proc. 1905, p. 339.

MALE. Length, 1 mm. Cephalothorax dusky orange-yellow sometimes narrowly margined with black; viewed from above evenly rounded on the sides, convergent towards the front, truncate in front, the eyes not occupying the whole width of head; viewed from the side steeply ascending behind to the dorsal groove and then gently rounded over the head to the posterior eyes. Clypeus straight and vertical.

Sternum dusky orange, darker at the margin, as wide as long, convex, sides rounded, produced into a truncate point between the hind coxæ which are separated by the diameter. Labium and endites dusky orange. No tooth on face of chelicera. Legs and palpus dull yellowish. Abdomen gray with scattered light spots and transverse lines.

Posterior eyes in a slightly procurved line, equal, the median separated by the diameter and slightly closer to the lateral. Anterior eyes in a straight line, median eyes smaller than the lateral,

oval, oblique, all separated by about the diameter of the median. A bunch of long hairs in median ocular area on a black spot. A single long hair on each side between the anterior median and posterior lateral eyes. Clypeus a little narrower than the median ocular area.

Femur of palpus long, slender, gently curved. Patella long, stout, widened distally, slightly arched above, armed with a row of 4 or 5 stiff hairs. Ratio of length of femur to that of patella as 18 to 10. Tibia strongly convex dorsally and dorsally produced into a very long, apically slender, long-pointed process which bears on the lateral side two triangular teeth, the basal one the larger. Paracymbium rather slender, very strongly curved and hooked. The bezel is moderately high with an evenly convex margin. Tail-piece of the embolic division short, rounded at tip with a rounded tooth on the side toward the middle of the palpus. The embolus arises directly from the tail-piece and is rather long, slender process curved in an open spiral. Median apophysis appears as a small, bluntly rounded tooth.

FEMALE. Length, 1.2 mm. Similar to male in form and color. The epigynum has the middle lobe narrowed in front and broadly widened and triangular behind.

Type locality: New Haven, Conn.

Illinois: Augerville, Oct. 4, 1928, 1 ♂; Nov. 27, 1928, 1 ♂ (Rutherford); Brownfield, Aug. 25, 1925, 2 ♀ (Smith); Salts, May 24, 1926, 1 ♂ (Smith); Urbana, June 29, 1925, 1 ♀ (Smith); Feb. 22, 1926, 6 ♂ 7 ♀ (Smith); May 3, 1926, 1 ♀ (Smith); May 14, 1926, 2 ♂ 1 ♀ (Smith); June 21, 1926, 1 ♀ (Smith).

Iowa: Traer, Nov. 5, 1931, 3 ♂ 1 ♀ (H. M. Harris); McGregor, winter, 1934, 1 ♂ 2 ♀ (Andre).

Kansas: Blue Mound, Douglas Co., 1924, 1 ♂ 1 ♀ (Baemer).

Maryland: Rockville, Apr. 29, 1924, 1 ♂.

Minnesota: Lake Minnetonka, July 31, 1924, 1 ♀ (Fletcher); Aug. 8, 1924, 1 ♀ (Fletcher); Aug. 28, 1924, 3 ♀ (Fletcher); June 22, 1926, 1 ♀ (Fletcher); June 30, 1926, 1 ♀ (Fletcher).

Missouri: Columbia, Feb., 5 ♂ 9 ♀; Mar. 1906, 82 ♂ and ♀; Apr., 1 ♀; May, 1 ♂; Oct., 2 ♂ 2 ♀; Nov., 5 ♂ 3 ♀.

New York: Albany, Apr. 9, 1931, 8 ♂ 4 ♀; Accord, Mar. 15, 1919, 3 ♂ 1 ♀; Belden Hill, Broome Co., May 19, 1923, 1 ♂ 1 ♀;

Enfield Glen, Apr. 22, 1925, 1 ♂ 2 ♀; Apr. 5, 1930, 4 ♂; English Church, Rockland Co., 1 ♂; Freeville, Oct. 12, 1924, 1 ♂ 1 ♀; Hither Hills, Apr. 5, 1931, 1 ♂; Ithaca, Feb., 1 ♀; Mar., 3 ♀; Apr., 3 ♂; Dec., 1 ♀; Jamaica, Apr. 7, 1923, 1 ♂ 5 ♀ (A. Wolf); Juanita Island, Lake George, Aug. 5, 1920, 1 ♀; Lake Keuka, Dec. 1903, 1 ♀; Dec. 1905, 1 ♂ 1 ♀; Larchmont, Sept. 26, 1925, 4 ♂ 1 ♀ (A. Wolf); Montour Falls, Oct. 12, 1924, 1 ♀; Mountain Lake, Fulton Co., Apr. 26, 1923, 2 ♂ 1 ♀; Pomona, Rockland Co., Apr. 12, 1923, 3 ♀; Sylvan Beach, July 1904, 1 ♀; Wells, Apr. 27, 1923, 1 ♂ 1 ♀; Wolcott, May 23, 1923, 2 ♂ 1 ♀.

North Carolina: Cowee Mts., Swain Co., Oct. 15, 1926, 1 ♂; Raleigh, Oct. 26, 1923, 1 ♂; Asheville, Sept.-Oct. 1934, 1 ♂ (Jacot).

Vermont: Pittsford, May 8, 1929, 2 ♂ 2 ♀.

Virginia: Alberta, Oct. 27, 1923, 2 ♂ 2 ♀; Great Falls, Apr. 3, 1921, 1 ♂.

### *Scylaceus obtusus* Emerton

(Figures 81-83)

*Tmeticus obtusus* Emerton. Conn. Acad. Sci. Trans. 20: 149, pl. 2, fig. 4, 1915.

MALE. Length, 1.5 mm. Cephalothorax greenish with indistinct darker radiating lines; viewed from above rather broad, rounded on the sides, strongly converging toward the front, nearly straight across the eyes. The head projects forward so that the anterior eyes are in profile. Cephalothorax viewed from the side gently ascending on the posterior declivity, then gently rounded over to the eyes, highest just behind the eyes. Clypeus straight and slightly protruding. Sternum and labium dark gray. Endites pale yellowish, grayish distally. Chelicerae pale grayish yellow. Legs and palpi pale, dull grayish yellow, coxæ more grayish beneath, narrowly margined with black distally. Abdomen dark gray, nearly black. The epigastric plates abnormally developed, swollen, contiguous, the surface roughly pebbled. The spine on the posterior angle of the hind coxæ much larger than usual.

Posterior eyes in a very slightly procurved line, equal, the median separated by the diameter and from the lateral by the

radius. The anterior eyes in a slightly recurved line, the median separated by a little more than the radius and from the lateral by the diameter. Clypeus a little narrower than the median ocular area.

Femur of palpus rather stout, slightly widened toward the tip, strongly curved inward. Patella narrower than femur, slightly arched above, not concave below. Ratio of length of femur to that of patella as 17 to 7. Tibia produced dorsally into a broad, thin, truncate lobe with rounded corners; dorsolaterally there is a broad, rounded lobe separated from the dorsal lobe by a shallow rounded notch; the tip of the dorsal process thicker and darker in color, proximally from which it is thinner and lighter, a row of long stiff hairs just back of the margin of the lateral lobe. Paracymbium slender, strongly curved. Tail-piece of the embolic division a thin, elongate, pyriform lobe which lies across the tip of the bulb. From the base of the tail-piece there arises two black processes at right angles to each other, the one in line with the tail-piece ends in two sharp points twisted around each other, the other is shorter, truncate at tip, and has a minute notch at the tip, the opening of the ejaculatory duct. The median apophysis appears as a beak-shaped tooth under the edge of the cymbium, not shown in view given of the palpus.

FEMALE. Length, 1.4 mm. Similar to the male in form and color. The epigynum consists of a strongly convex plate, evenly rounded behind, with a large triangular notch in the middle occupied by the smooth white middle lobe.

Type localities: Jasper and Lake Louise, Alberta.

Colorado: Pingree Park, Larimer Co., Aug. 20, 1924, 5 ♂ 11 ♀, in moss by pond.

This species has also been recorded by Emerton from Canada: Jasper Park, Alberta.

#### SMODIX new genus

Type: *Tmeticus reticulatus* Emerton.

In this genus the stridulating plate on the under side of the abdomen is extraordinarily developed. The tibia of the male palpus is without a distinct process. The embolic division has a small triangular tail-piece. The embolus is fairly long, flat, and curved.



**Smodix reticulata** Emerton

(Figures 84-86)

*Tmeticus reticulatus* Emerton, Conn. Acad. Sci. Trans. 20: 148, pl. 2, fig. 3. 1915.

MALE. Length, 2 mm. Cephalothorax dusky over orange, darker at the margin and along the radiating lines; viewed from above, evenly and broadly rounded on the sides with scarcely any constriction at the cervical groove, broadly truncate across the front; viewed from the side, rounded over the posterior declivity and then gradually ascending to a slight hump back of the cervical groove where there is a broad shallow depression, then gradually ascending to a point in front of the posterior median eyes. Clypeus slightly convex and vertical. Median ocular area rugose, armed with a bunch of long, curved stiff hairs directed backward; back of the eyes a group of 5 or 6 stiff hairs directed forward and crossing the others. Sternum broad, dark brown, strongly convex. Endites dusky orange-yellow. Legs orange-yellow, coxæ suffused with dusky. Abdomen dark gray. On the ventral side of the abdomen in front of the epigastric furrow is a swollen, strongly chitinized plate; the middle part is hexagonally reticulate and the sides transversely striate. This is an extreme development of the stridulating organ.

Posterior eyes in a straight line, equal, the median separated by twice the diameter and from the lateral by about the diameter. Anterior eyes in a slightly recurved line, the median much smaller than the lateral, separated by the radius and from the lateral by nearly twice the diameter.

Femur of palpus moderately long, rather stout and curved inward, armed on the ventrolateral side with a row of 6 stiff hairs. Patella short, straight, slightly widened distally. Ratio of length of femur to that of patella as 22 to 9. Tibia ventrally as long as patella, broadly produced dorsally with the margin truncate, gently sinuate, the lateral angle armed with a black triangular incurved tooth; the margin next to the paracymbium broadly and evenly excavated. Paracymbium rather stout and strongly curved, base armed with a row of five slender, stiff hairs. The tegulum somewhat protuberant ventrally. The tail-piece of the embolic division ends in a flat triangular piece which lies over the

end of the tegulum. This is connected with the base of the embolus proper by a broad, thin section which is folded back toward the center of the bulb. The embolus itself is a stout, black style gradually narrowed toward the tip, the basal part is nearly straight; it then makes a sharp bend and terminates in two points.

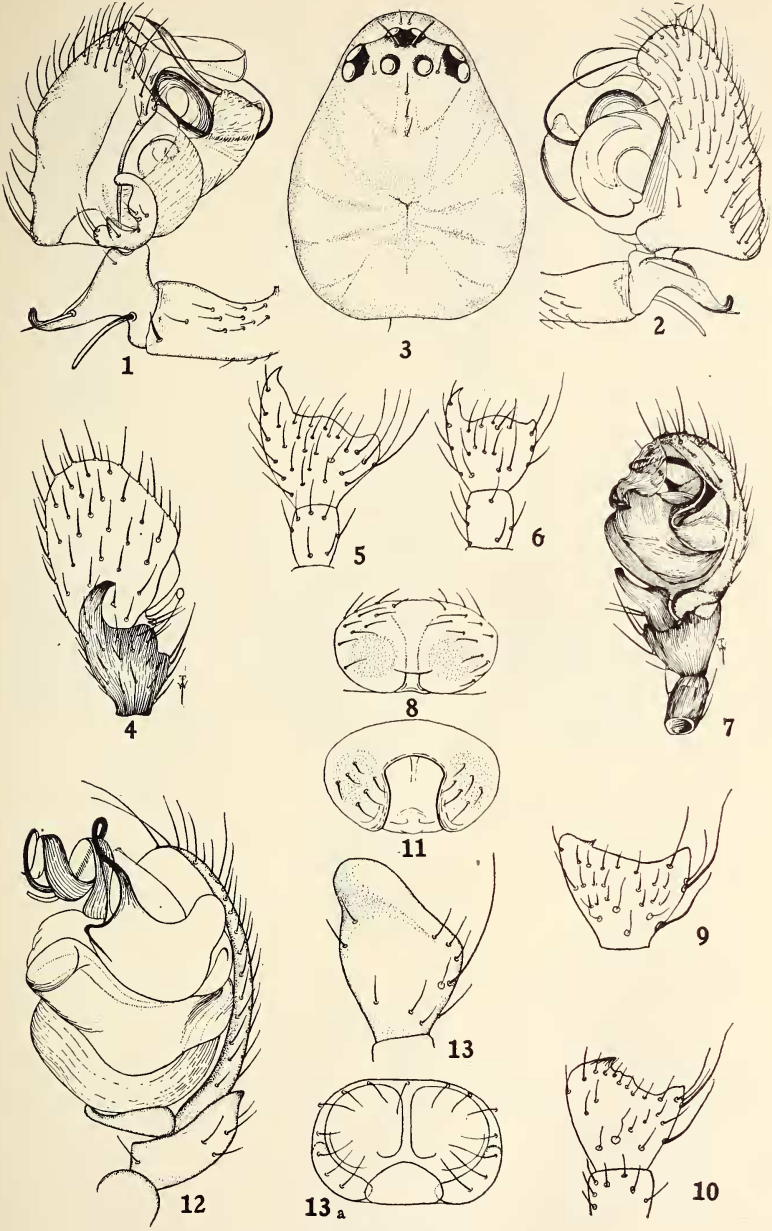
FEMALE. Length, 1.7 mm. Similar to the male. The epigynum is a convex plate deeply notched behind. The openings are at the anterior end of the median fovea. The fovea is occupied by three plates, an anterior median one, pointed behind and two triangular lateral ones, the tips of which meet on the middle line.

Type localities: Lake Louise, Alta., and Laggan, B. C.

Alberta: Lake Louise, Aug. 12, 1927, 6 ♂ 1 ♀.

#### PLATE II

1. *Scotinotylus antennatus*, ♂, right palpus, lateral view.
2. *Scotinotylus antennatus*, ♂, right palpus, mesal view.
3. *Scotinotylus antennatus*, ♂, cephalothorax, dorsal view.
4. *Sisicottus montanus*, type of *nesides*, ♂, right palpus, tibia, full dorsal view.
5. *Sisicottus montanus*, *pidacitis* form, ♂, right tibia, dorsolateral view.
6. *Sisicottus montanus*, eastern form, ♂, right tibia, dorsolateral view.
7. *Sisicottus montanus*, type, ♂, right palpus, mesoventral view.
8. *Sisicottus montanus*, ♀, epigynum.
9. *Sisicottus montigenus*, ♂, right tibia, dorsolateral view, Mt. MacIntyre specimen.
10. *Sisicottus montigenus*, ♂, right tibia, dorsolateral view, Mt. Mitchell specimen.
11. *Sisicottus montigenus*, ♀, epigynum.
12. *Sisicus penifusiferus*, ♂, right palpus, mesal view.
13. *Sisicus penifusiferus*, ♂, right tibia, dorsolateral view.
- 13a. *Sisicus penifusiferus*, ♀, epigynum.



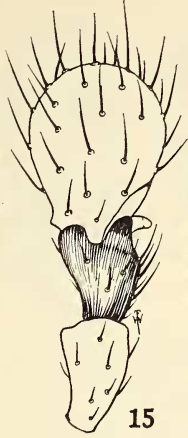
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## PLATE III

14. *Scolopembolus littoralis*, ♂, right palpus, mesoventral view.
15. *Scolopembolus littoralis*, ♂, right tibia, dorsal view.
16. *Scolopembolus melacrus*, ♂, left palpus, mesoventral view (from type).
17. *Scolopembolus melacrus*, ♂, left tibia, dorsal view.
18. *Tramatosisis bispinosus*, ♂, right palpus, mesal view (from type).
19. *Tramatosisis bispinosus*, ♂, right palpus, ventral view.
20. *Tramatosisis bispinosus*, ♂, right tibia, dorsal view.
21. *Tramatosisis bispinosus*, ♂, left tibia, dorsal view.
22. *Sisis rotundus*, ♂, right palpus, mesoventral view.
23. *Sisis rotundus*, ♂, right tibia, dorsal view.
24. *Sisis rotundus*, ♀, epigynum.



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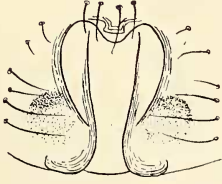


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## PLATE IV

25. *Dicymbium elongatum*, ♂, right palpus, dorsal view.
26. *Dicymbium elongatum*, ♂, right palpus, ventral view.
27. *Dicymbium elongatum*, ♂, right palpus, mesal view.
28. *Dicymbium elongatum*, ♂, right palpus, lateral view.
29. *Dicymbium elongatum*, ♂, cephalothorax, dorsal view.
30. *Dicymbium elongatum*, ♀, epigynum.
31. *Scirites pectinatus*, ♂, right palpus, mesoventral view.
32. *Scirites pectinatus*, ♂, right tibia, dorsolateral view.
33. *Scirites pectinatus*, ♂, tarsus and metatarsus of first leg.
34. *Scirites pectinatus*, ♀, epigynum.
35. *Scironis tarsalis*, ♂, right palpus, ventral view.
36. *Scironis tarsalis*, ♂, right tibia, dorsal view.
37. *Scironis tarsalis*, ♂, right tibia, dorsolateral view.
38. *Sinoria rapidula*, ♂, right palpus, mesoventral view.
39. *Sinoria rapidula*, ♂, right tibia, dorsal view.
40. *Sitalcas ruralis*, ♂, right palpus, lateral view.
41. *Sitalcas ruralis*, ♂, right tibia, dorsal view.
42. *Sitalcas ruralis*, ♀, epigynum.



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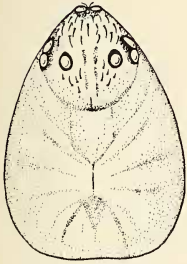
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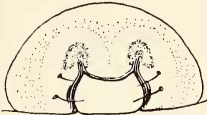
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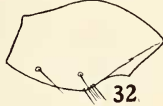
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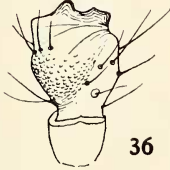
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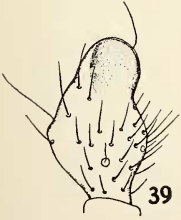
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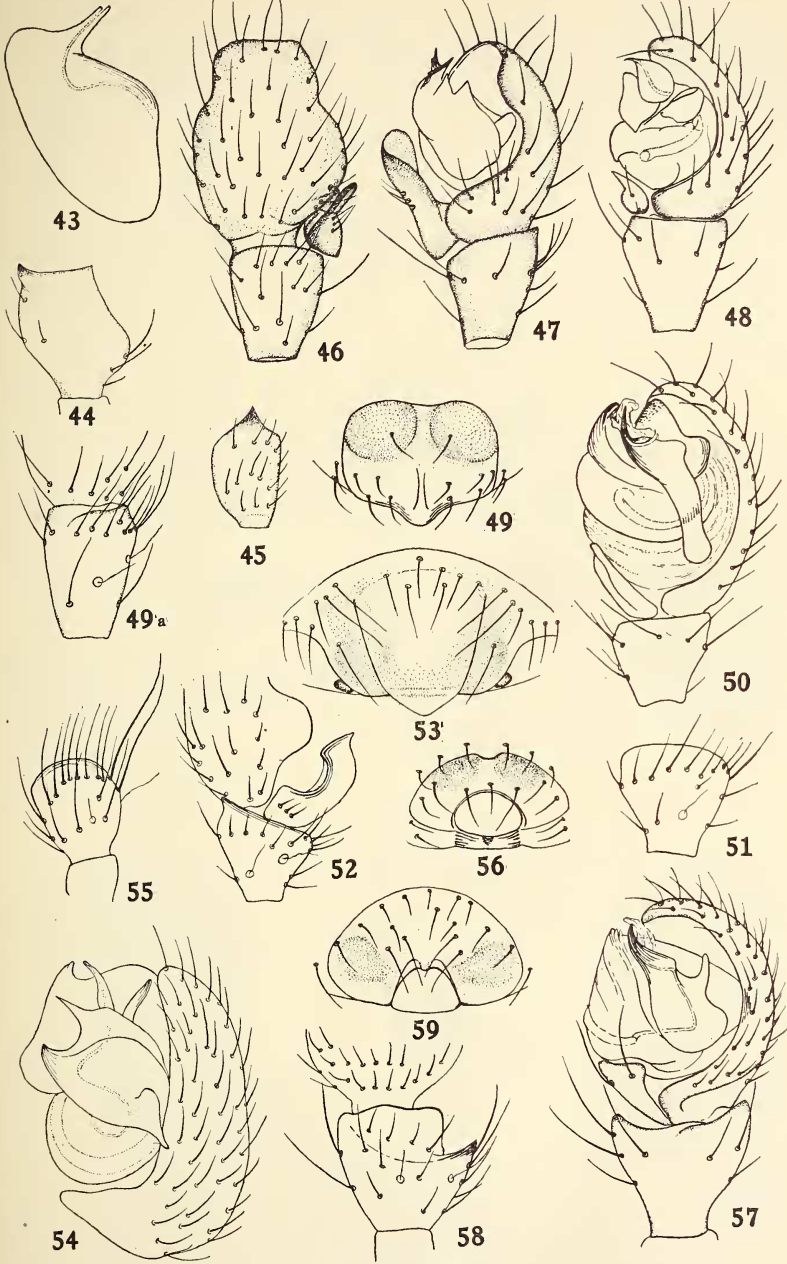
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## PLATE V

43. *Sciastes acuminatus*, ♂, right embolus.
44. *Sciastes acuminatus*, ♂, right tibia, dorsolateral view.
45. *Sciastes acuminatus*, ♂, right tibia, dorsal view.
46. *Sciastes concavus*, ♂, right palpus, dorsal view.
47. *Sciastes concavus*, ♂, right palpus, mesal view.
48. *Sciastes microtarsus*, ♂, right palpus, mesal view.
49. *Sciastes microtarsus*, ♀, epigynum.
- 49a. *Sciastes microtarsus*, ♂, right tibia, dorsal view.
50. *Sciastes simplex*, ♂, right palpus, mesoventral view.
51. *Sciastes simplex*, ♂, right tibia, dorsal view.
52. *Sciastes simplex*, ♂, right palpus, dorsolateral view.
53. *Sciastes simplex*, ♀, epigynum.
54. *Sciastes terrestris*, ♂, right palpus, mesal view.
55. *Sciastes terrestris*, ♂, right tibia, dorsal view.
56. *Sciastes terrestris*, ♀, epigynum.
57. *Sciastes truncatus*, ♂, right palpus, mesoventral view.
58. *Sciastes truncatus*, ♂, right tibia, dorsal view.
59. *Sciastes truncatus*, ♀, epigynum.





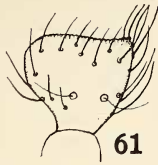
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## PLATE VI

60. *Sciastes ursinus*, ♂, right palpus, mesoventral view.
61. *Sciastes ursinus*, ♂, right tibia, dorsal view.
62. *Sciastes vicosanus*, ♂, right palpus, mesoventral view.
63. *Sciastes vicosanus*, ♂, right tibia, dorsal view.
64. *Sciastes vicosanus*, ♀, epigynum.
65. *Gnathonaroides pedalis*, ♂, right palpus, lateral view.
66. *Gnathonaroides pedalis*, ♂, right palpus, mesal view.
67. *Sisyrbe rustica*, ♂, left palpus, ventral view.
68. *Sisyrbe rustica*, ♂, left palpus, dorsal view.
69. *Scotoussa bidentata*, ♂, right palpus, mesoventral view.
70. *Scotoussa bidentata*, ♂, tibia, dorsal view.
71. *Scotoussa bidentata*, ♀, epigynum.



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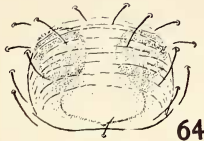
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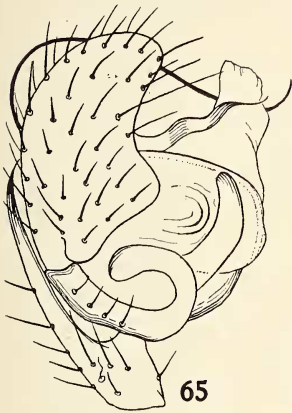
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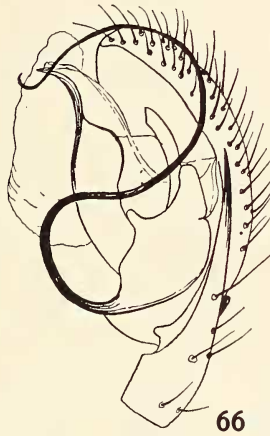
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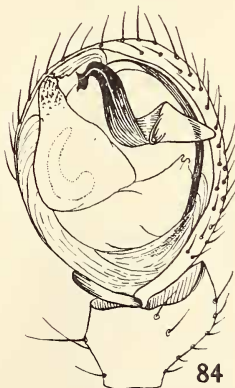
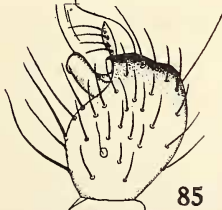
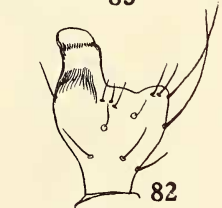
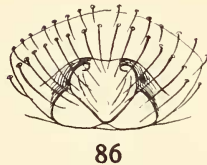
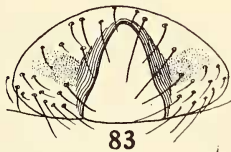
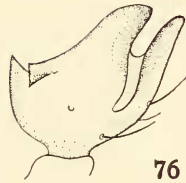
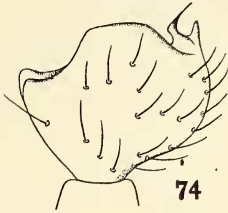
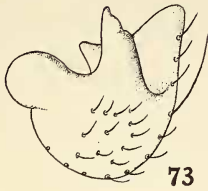


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## PLATE VII

72. *Scyletria inflata*, ♂, right palpus, mesal view.
73. *Scyletria inflata*, ♂, right tibia, dorsolateral view.
74. *Scyletria inflata*, ♂, right tibia, mesal view.
75. *Scyletria jona*, ♂, right palpus, mesal view.
76. *Scyletria jona*, ♂, right tibia, dorsomesal view.
77. *Scylaceus pallidus*, ♂, right palpus, mesoventral view.
78. *Scylaceus pallidus*, ♂, right tibia, dorsal view.
79. *Scylaceus pallidus*, ♂, right tibia, mesodorsal view.
80. *Scylaceus pallidus*, ♀, epigynum.
81. *Scylaceus obtusus*, ♂, right palpus, mesal view.
82. *Scylaceus obtusus*, ♂, right tibia, dorsal view.
83. *Scylaceus obtusus*, ♀, epigynum.
84. *Smodix reticulata*, ♂, right palpus, ventral view.
85. *Smodix reticulata*, ♂, left tibia, dorsal view.
86. *Smodix reticulata*, ♀, epigynum.



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